Kegan W. Boyer, P.G.
Project Manager

Upstream Business Unit
Environmental Management Company
1400 Smith Street
Room 07076
Houston, Texas 77002
Tel 713-372-7705
kegan.boyer@chevron.com

June 14, 2016

RECEIVED
By JKeyes at 8:06 am, Jun 14, 2016

Mr. Jamie Keyes
Environmental Specialist, District 1
Oil Conservation Division, EMNRD
1625 N. French Drive
Hobbs, New Mexico 88240

Re: Initial Site Assessment Report
and Path Forward Plan
Moran 2-6 (RP 3657)

Mr. Keyes,

Chevron Environmental Management Company (CEMC) is submitting the attached report entitled: *Initial Site Assessment Results, Former Moran No. 2-6 Tank Battery, West Nadine Field, Lea County, New Mexico* dated April 25, 2016.

This report documents the results of the initial site assessment activities performed at the former tank battery location associated with the plugged Moran 2-6 well location (RP 3657). This document was prepared for CEMC by Arcadis US, Inc. (Arcadis). This report also includes a general description of the path forward workplan for additional sampling activities to complete vertical delineation of the identified impacts.

Once delineation of the impacts is complete, a remediation workplan will be prepared and submitted to the OCD.

Should you have any questions regarding the content of the report or the proposed actions, please do not hesitate to contact me by phone at 713-372-7705 or via e-mail at kegan.boyer@chevron.com.

Sincerely,

Kegan W. Boyer, P.G.
Environmental Project Manager

encl: *Initial Site Assessment Results, Former Moran No. 2-6 Tank Battery, West Nadine Field, Lea County, New Mexico*
cc: Priscilla Yelvington, Arcadis

Mr. Kegan W. Boyer, P.G.
Project Manager
Chevron Environmental Management Company
Upstream Business Unit
1400 Smith Street
Houston, Texas 77002

Arcadis U.S., Inc.
2929 Briarpark Drive
Suite 300
Houston
Texas 77042
Tel 713 953 4800
Fax 713 977 4620
www.arcadis.com

ENVIRONMENT

Subject:
Initial Site Assessment Results
Former Moran No. 2-6 Tank Battery
West Nadine Field
Lea County, New Mexico

Date:
April 25, 2016

Contact:
Priscilla Yelvington

Phone:
713 953 4717

Email:
priscilla.yelvington@arcadis.com

Our ref:
B0048787.0000

ARCADIS U.S., Inc.
TX Engineering License # F-533

Dear Mr. Boyer:

On behalf of Chevron U.S.A. Inc. (CUSA) and under the direction of Chevron Environmental Management Company (CEMC), Arcadis U.S., Inc. (Arcadis) conducted an initial site assessment of a former tank battery associated with the plugged oil well Moran No. 2-6 (API 30-025-28704).

This report provides a brief site background, general site characteristics, as well as the results of recent assessment activities.

BACKGROUND

The former Moran No. 2-6 Tank Battery (the site) is located about 3.1 miles northwest of the intersection of Highway-18 and Billy Walker Road (latitude 32.599290, longitude -103.181621) in the West Nadine Field (Figure 1).

The Moran No. 2-6 well was plugged on August 20, 2014 and reclamation of the site was initiated in June 2015. During removal of an aboveground storage tank in the tank battery, soils underneath the tank appeared to be impacted with crude oil. CUSA filed a Release Notification and Corrective Action Form (C-141) with the New Mexico Oil Conservation Division (NMOCD) on June 2, 2015 along with a site reclamation safe digging plan.

CUSA then excavated soils from the former tank battery location and collected soil samples. In some locations, analytical results from the base of the excavation exhibited concentrations of hydrocarbons and chlorides that exceeded applicable regulatory criteria. The current excavation is approximately 75 feet by 60 feet with depth at the base ranging from 8 to 10 feet. The sides are benched towards the base of the excavation.

GENERAL SITE CHARACTERISTICS

This section includes a summary of regional characteristics, geology and hydrogeology and nearby water wells and surface water.

Regional Characteristics, Geology, and Hydrogeology

The site elevation is approximately 3,580 feet above mean sea level and lies within the Arid Llano Estacado Level IV ecoregion, which is in the High Plains Level III ecoregion. The Arid Llano Estacado ecoregion is characterized by a level, elevated plain that decreases in elevation from west to east and has few to no streams. Surface water is found primarily in ephemeral pools. Land cover is grassland and shrubland used primarily for ranching and livestock grazing and oil and gas production with small areas of irrigated cropland (USEPA, 2011).

Lea County is divided by the Mescalero Ridge. The Mescalero Ridge essentially divides two surface water drainage basins in the county: the Texas Gulf Basin and the Pecos River Basin. The site is located slightly inside the southern boundary of the Texas Gulf Basin. The Texas Gulf Basin is a depositional, low relief area containing loamy and sandy soil deposits. The soils found in the Southern High Plains, also north of the Mescalero Ridge, are generally comprised of shallow to deep gravelly and loamy soils or deep sandy soils formed from windblown and water-deposited materials in the Quaternary and late Tertiary periods. Soft or hard caliche is generally found to below soils in the majority of this area (OSE/ISC, 1999).

The site is located within the bounds of the Lea County Underground Water Basin (UWB). The primary aquifer in the Lea County UWB is the Ogallala Formation. The Ogallala Formation consist of sands, silts, clay, and gravel. Groundwater flow within the Ogallala aquifer is generally southeast. Primary uses of groundwater from the Lea County UWB are irrigation and public water supply (OSE/ISC, 1999).

Nearby Water Wells and Surface Water

Based on a review of the online database of the New Mexico Office of the State Engineer (NM OSE, 2016), no domestic water sources are located within 200 linear feet from the site and the nearest water source is an irrigation well (L-02404) located approximately 580 feet (ft) southeast of the site. The average depth to water within Section 6 of Township 20 South, Range 38 East, where the site is located, is 63 feet below ground surface (ft bgs) with a minimum depth of 53 ft and a maximum depth of 73 ft (Attachment 1).

Based on a review of the 1979 Hobbs SW, New Mexico 7.5 minute topographic quadrangle, the nearest surface water body is an ephemeral pond located more than 3,000 linear ft southwest of the site. Satellite

imagery on Google Earth (2014) was additionally reviewed and the ephemeral pond identified on the topographic map was confirmed to be the closest surface water body.

ASSESSMENT ACTIVITIES

In accordance with the work plan dated February 15, 2016, Arcadis conducted soils assessment activities within the current excavation at Locations C, D, E, F, and I, as shown on Figure 2. Prior to assessment activities, a New Mexico One Call Locate Request was placed to help identify public utility alignments that had the potential to be in conflict with the proposed activities. On March 7, 2016 a private utility contractor performed further utility location services using Ground Penetrating Radar (GPR) and radio detection. No additional utilities were identified.

On March 8, 2016 grab samples were collected beginning approximately 2 ft below the base of the excavation from the sample locations identified above using the bucket of a long reach excavator. A subset of the soils from each bucket grab sample were field screened for possible organic vapors in parts per million (ppm) using a photo-ionization detector (PID) and another subset of the soils were collected in laboratory supplied bottleware and immediately placed on ice.

Based on the results of the PID screening and visual observations of the soils, the excavator advanced the depth in Locations D, E, and F and additional grab samples were collected and screened with a PID prior to selecting the samples to be submitted the analytical laboratory.

It should be noted that the excavation was stair-stepped around the edges down to the base and the base depths along the southern excavation boundary started around 8-10 ft bgs depending on the sample location and were shallower towards the northern boundary. Uncertainty of the exact depths of each sample collected is due to the inability to enter the excavation for safety reasons. Therefore, the depths identified on the laboratory chain-of-custody and associated report were adjusted during development of this document to provide the best representation possible. The following table provides adjusted estimated sample depth ranges based on the surrounding natural ground surface and associated PID readings that were selected for analysis:

Sample Location	Adjusted Estimated Depth Range (ft bgs)	PID (ppm)
C	10-12	2.6
D	8-10	3.9
E	13-16	25.3
F	16-20	688.7
I	10-12	2.2

All excess excavated soils were placed back in the excavation.

SOIL ANALYTICAL RESULTS

Analytical Methods

Samples submitted for laboratory analysis were transported via overnight shipping to Xenco Laboratories, Inc. in Houston, Texas (Xenco) under chain-of-custody protocol and analyzed for the following:

- Benzene, toluene, ethylbenzene and total xylenes (BTEX) by United Stated Environmental Protection Agency (USEPA) Method 8260B
- Total petroleum hydrocarbons Gasoline Range Organics, Oil Range Organics, and Diesel Range Organic (TPH GRO, TPH ORO, and TPH DRO) by USEPA Method 8015M
- Chloride by USEPA Method 300, and
- Percent Moisture by American Society for Testing and Materials (ASTM) Method 2216A.

Regulatory Evaluation Criteria

The analytical data was compared to the regulatory criteria outlined in the NMOCD's guidance document entitled *Guidelines for Remediation of Leaks, Spills and Releases* dated August 13, 1993 based on potential receptors at the site as discussed above under General Site Characteristics. The recommended remediation action levels (RRALs) were calculated using the following risk-based criteria:

Criteria	Site-Specific Result	Ranking Score
Depth to Groundwater	50 – 99 feet	10
Wellhead Protection Area	Yes	20
Distance to Surface-Water Body	> 1,000 horizontal feet	0
	Total Ranking Score	**30**

The resulting RRALs in milligrams per kilogram (mg/Kg) were determined as follows:

Constituent	mg/Kg
Benzene	10
Total BTEX	50
TPH	100

Sample Results

Benzene was not detected above the laboratory method detection limit (MDL) for any of the five soil samples. Total BTEX was detected in the samples collected from Locations E and F at adjusted depth

ranges of 13-16 ft bgs and 16-20 ft bgs, respectively. However, detected concentrations did not exceed the RRAL of 50 milligrams per kilogram (mg/Kg).

TPH GRO was only detected at Location F (16-20 ft bgs) at a concentration of 1,920 mg/Kg, which exceeds the RRAL of 100 mg/Kg. No other samples detected TPH GRO at or above the laboratory MDL. TPH DRO was detected in all five soil samples with concentrations ranging from 3.59 mg/Kg to 3,930 mg/Kg. Only Locations F (16-20 ft bgs) and I (10-12 ft bgs) exceeded the RRAL of 100 mg/Kg with concentrations of 3,930 mg/Kg and 120 mg/Kg, respectively. TPH ORO was detected in all five soil samples with concentrations ranging from 1.63 mg/Kg to 1,060 mg/Kg. Locations C (10-12 ft bgs), F (16-20 ft bgs), and I (10-12 ft bgs) exceeded the RRAL of 100 mg/Kg with concentrations of 158 mg/Kg, 1,060 mg/Kg, and 132 mg/Kg, respectively.

Though chloride was detected in all five soil samples, none of the concentrations exceeded the NMOCD's regulatory practice guideline of 250 mg/Kg. The detected concentrations ranged from 3.22 mg/Kg to 27.6 mg/Kg.

Table 1 provides a summary of the soil analytical results. Attachment 2 provides a copy of the final analytical laboratory report. Figure 2 provides a depiction of the soil analytical results.

RECOMMENDATIONS

Based on the concentrations of TPH GRO, TPH DRO, and TPH ORO at Location F, follow up assessment activities will occur at that location using a track-mounted direct push drilling rig. Prior to entry of the drilling rig into the excavation, the sides will be sloped to meet OSHA standards for safe ingress and egress. One soil boring will be advanced at Location F, the soil core screened for organic vapors using a PID and logged for lithology and visual observations. Samples will be collected from the highest PID reading and the depth interval below the highest PID reading that no longer exhibits organic vapor content. Groundwater is not anticipated to be encountered during this additional assessment as total depth is not anticipated to exceed 40 ft bgs. Soil samples will be submitted to Xenco for analysis of the same analytical parameters listed above.

CLOSING

If you have any questions or comments regarding report, please contact Priscilla Yelvington of Arcadis at 713 953 4717 or by e-mail at priscilla.yelvington@arcadis.com.

Sincerely,

Arcadis U.S., Inc.

Priscilla V. Yelvington
Project Manager

Joel R. Nanny, P.G.
Project Geologist

References:

Google Earth. 2014. Lea County, New Mexico, 32.599283, -103.181573, elevation 3578 feet, Google Earth Imagery. Retrieved April 1, 2016.

New Mexico Office of the State Engineer. NM Water Rights Reporting System Water Column Average Depth to Water. Retrieved April 1, 2016, from http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html.

New Mexico Oil Conservation Division. 1993. Guidelines for Remediation of Leaks, Spills and Releases. August 13.

Office of the State Engineer / Interstate Stream Commission, 1999. Region 16 – Lea County Regional Water Plan.

U.S. Environmental Protection Agency. Ecoregions of the United States. Retrieved April 4, 2016, from ftp://ftp.epa.gov/wed/ecoregions.

Enclosures:

Figures

1 Site Location

2 Soil Analytical Results

Tables

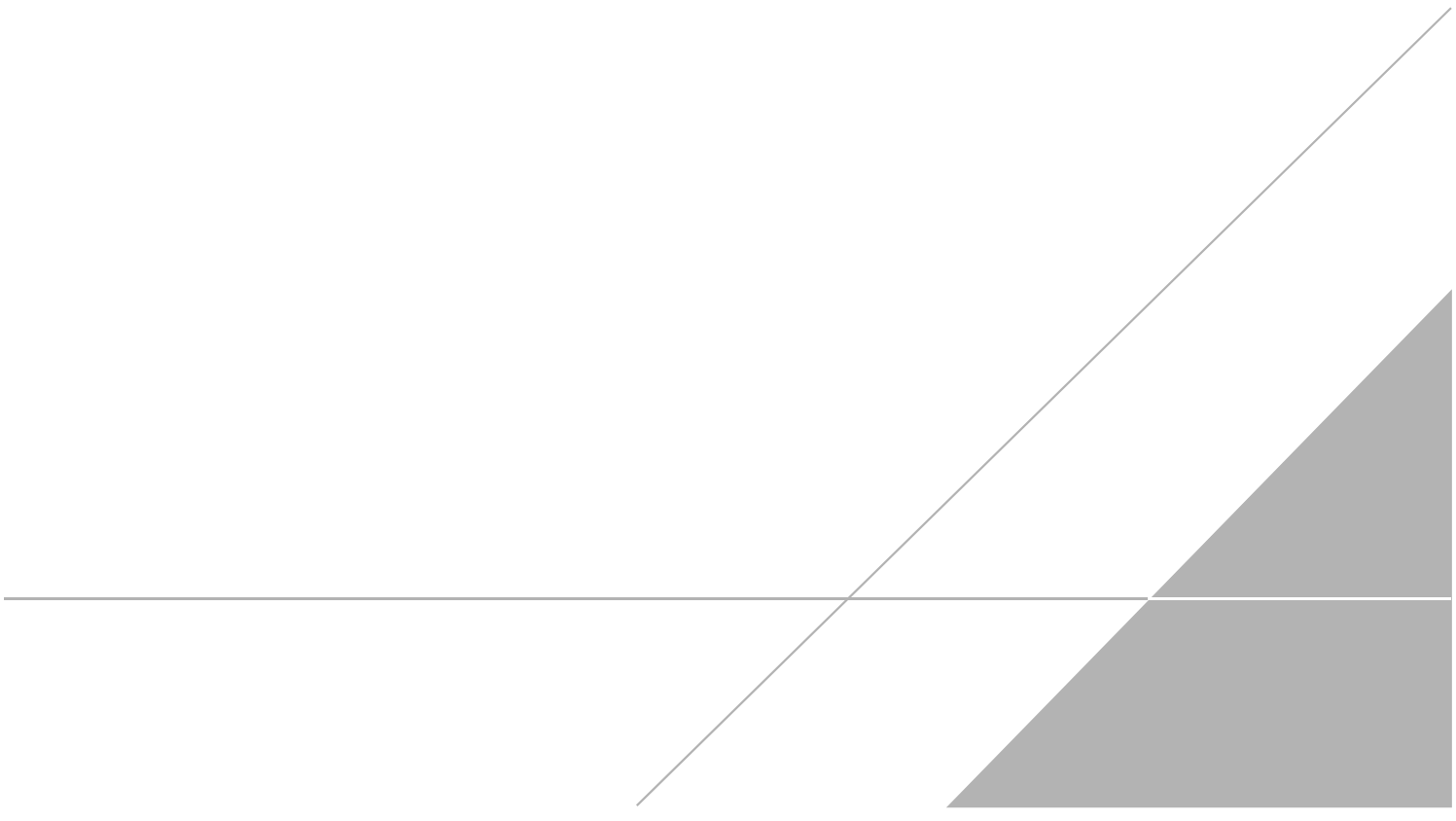
1 Soil Analytical Results

Attachments

1 NM OSE Water Column/Average Depth to Water

2 Analytical Laboratory Report

TABLES



ARCADIS

Table 1
Soil Analytical Results
Chevron U.S.A. Inc.
Moran No. 2-6 Initial Site Assessment
Lea County, New Mexico

Sample ID	Adjusted Estimated Depth Range (ft bgs)	Date	Constituents									
			Volatile Organics - EPA 8260					Salinity	Hydrocarbons - EPA 8015			% Moisture
			Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	Chlorides	TPH GRO C6-C10	TPH DRO >C10-C28	TPH ORO >C28-C35	Moisture
		Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%
		Regulatory Limit	10	--	--	--	50	250	100			--
C	10-12	3/8/2016	<0.000257	<0.000173	<0.000128	<0.000306	<0.000128	18	<0.980	82.2	**158**	25.67
D	8-10	3/8/2016	<0.000217	<0.000146	<0.000108	<0.000259	<0.000108	3.22	<0.842	3.59	1.63	11.70
E	13-16	3/8/2016	<0.000264	<0.000178	<0.000131	0.00173	0.00173	26.8	<1.02	28.5	12.6	27.90
F	16-20	3/8/2016	<0.00641	0.113	2.65	13.7	16.5	19.1	**1,920**	**3,930**	**1,060**	25.70
I	10-12	3/8/2016	<0.000266	<0.000179	<0.000132	<0.000317	<0.000132	27.6	<1.01	**120**	**132**	27.56

Legend:

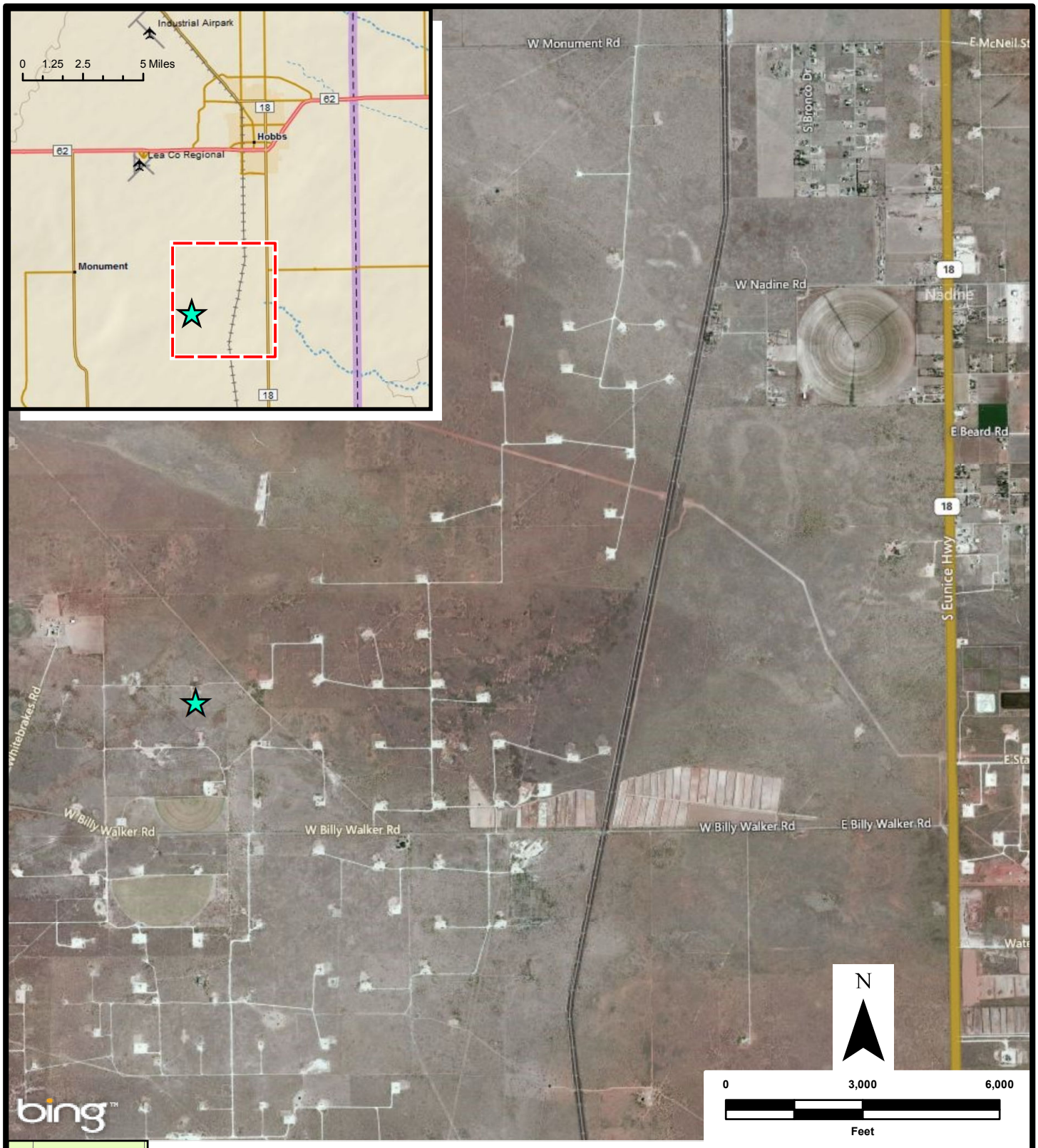
###	Analytical value is greater than or equal to the regulatory limit.
mg/Kg	milligrams per killigram
%	percent
--	Not applicable

Notes:

Regulatory limits for BTEX and TPH are based on the New Mexico Oil Conservation Division's (NMOCD's) "Guidelines for Remedation of Leaks, Spills, and Releases", August 13, 1993 and the NMOCD's regulatory practice guideline for chloride in soil.

FIGURES

File name: Moran No 2-6 Loc.mxd



Moran No. 2-6
Lat/Long: 32.599290, -103.181621

Chevron U.S.A. Inc.
Lea County, New Mexico
Former Moran No. 2-6 Tank Battery

Site Location
West Nadine Field

ARCADIS
ARCADIS U.S., Inc.
2929 BRIARPARK DR.
SUITE 300
HOUSTON, TEXAS
TEL. 713.953.4800

FIGURE
1

Constituent Abbreviations		Regulatory Limit
Benzene	Benzene	10
BTEX	Total Benzene, Toluene, Ethylbenzene, and Xylenes	50
Chloride	Chloride	250
TPH GRO	Total Petroleum Hydrocarbons Gasoline Range Organics	100
TPH DRO	Total Petroleum Hydrocarbons Diesel Range Organics	100
TPH ORO	Total Petroleum Hydrocarbons Oil Range Organics	100

D @ 8-10 ft bgs	3/8/2016
Benzene	<0.000217
Total BTEX	<0.000108
Chloride	3.22
TPH GRO	<0.842
TPH DRO	3.59
TPH ORO	1.63

C @ 10-12 ft bgs	3/8/2016
Benzene	<0.000257
Total BTEX	<0.000128
Chloride	18
TPH GRO	<0.980
TPH DRO	82.2
TPH ORO	**158**

I @ 10-12 ft bgs	3/8/2016
Benzene	<0.000266
Total BTEX	<0.000132
Chloride	27.6
TPH GRO	<1.01
TPH DRO	**120**
TPH ORO	**132**

E @ 13-13 ft bgs	3/8/2016
Benzene	<0.000264
Total BTEX	0.00173
Chloride	26.8
TPH GRO	<1.02
TPH DRO	28.5
TPH ORO	12.6

F @ 16-20 ft bgs	3/8/2016
Benzene	<0.00641
Total BTEX	16.5
Chloride	19.1
TPH GRO	**1,920**
TPH DRO	**3,930**
TPH ORO	**1,060**

N

0 40 80 Feet

GRAPHIC SCALE

Legend:

- Approximate Sample Location
- **Moran No. 2-6** Lat/Long: 32.599290, -103.181621
- T Pole-Mounted Transformers
- Fenceline
- Plains Pipeline
- Excavation
- Stockplie
- #### Analytical Value is ≥ Regulatory Limit
- ft bgs Feet Below Ground Surface

Notes:

1. Samples collected on March 8, 2016.
2. Regulatory limits are based on the New Mexico Oil Conservation Division's "Guidelines for Remediation of Leaks, Spills, and Releases" dated August 13, 1993.
3. All analytical results are presented in milligrams per kilogram (mg/Kg).

CHEVRON U.S.A. INC.
LEA COUNTY, NEW MEXICO
FORMER MORAN NO. 2-6 TANK BATTERY

SOIL ANALYTICAL RESULTS

WEST NADINE FIELD
MARCH 2016

ARCADIS Design & Consultancy for natural and built assets

FIGURE 2

City: Houston Div/Group: Remediation West -Air Group Created By: W Berry Last Saved By: wberry ; Client (Project #)
D:_Arcadis\Land Services\Chevron\Moran No. 2-6\GIS\Moran No 2-6 Analytical.mxd 3/29/2016 4:12:26 PM

ATTACHMENT 1

NM OSE Water Column/Average Depth to Water

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 02404		L	LE	2	4	4	06	20S	38E	670759	3608136*	80	60	20
L 02498		L	LE	4	4	4	06	20S	38E	670759	3607936*	90	65	25
L 02498 POD2	R	L	LE	4	4	4	06	20S	38E	670759	3607936*	90	73	17
L 02498 POD3		L	LE	4	4	4	06	20S	38E	670759	3607936*	88	67	21
L 09771		L	LE			1	06	20S	38E	669633	3609023*	65	53	12

Average Depth to Water: **63 feet**

Minimum Depth: **53 feet**

Maximum Depth: **73 feet**

Record Count: 5

PLSS Search:

Section(s): 6 **Township:** 20S **Range:** 38E

***UTM location was derived from PLSS - see Help**

ATTACHMENT 2

Analytical Laboratory Report

Analytical Report 526483

for

ARCADIS

Project Manager: Priscilla Yelvington

Moran No. 2-6 Initial Site Assessment

UWDDB-46009-ABS

25-MAR-16

Collected By: Client

4147 Greenbriar Dr.
Stafford, TX 77477

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-15-19), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534-15-1)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

ARCADIS, Midland, TX

Moran No. 2-6 Initial Site Assessment

Sample Id:	**D-S-9'-160308**	Matrix:	Soil	Date Received:	03.09.16 09.30
Lab Sample Id:	526483-002	Date Collected:	03.08.16 16.08	Sample Depth:	9 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	DEP			% Moisture:	11.7
Analyst:	DEP	Date Prep:	03.14.16 11.28	Basis:	Dry Weight
Seq Number:	990268				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3.22**	2.23	0.395	mg/kg	03.14.16 23.38		1

Analytical Method:	TPH DRO-ORO by SW846-8015			Prep Method:	SW3550
Tech:	SOK			% Moisture:	11.7
Analyst:	PKH	Date Prep:	03.11.16 15.09	Basis:	Dry Weight
Seq Number:	990310				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-DRO (C10-C28)	68334-30-5	**3.59**	1.89	1.18	mg/kg	03.14.16 18.28		1
TPH-ORO (C28-C35) *	C20C38ORO	**1.63**	3.74	1.18	mg/kg	03.14.16 18.28	J	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Pentacosane	629-99-2	96	%	40-130	03.14.16 18.28	

Analytical Method:	BTEX by SW 8260B			Prep Method:	SW5030B
Tech:	JTR			% Moisture:	11.7
Analyst:	JTR	Date Prep:	03.09.16 15.10	Basis:	Dry Weight
Seq Number:	989949				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000217	0.00113	0.000217	mg/kg	03.09.16 15.24	U	1
Toluene	108-88-3	<0.000146	0.00113	0.000146	mg/kg	03.09.16 15.24	U	1
Ethylbenzene	100-41-4	<0.000108	0.00113	0.000108	mg/kg	03.09.16 15.24	U	1
m,p-Xylenes	179601-23-1	<0.000409	0.00226	0.000409	mg/kg	03.09.16 15.24	U	1
o-Xylene	95-47-6	<0.000259	0.00113	0.000259	mg/kg	03.09.16 15.24	U	1
Total Xylenes	1330-20-7	<0.000259	0.00113	0.000259	mg/kg	03.09.16 15.24	U	1
Total BTEX		<0.000108	0.00113	0.000108	mg/kg	03.09.16 15.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	99	%	74-126	03.09.16 15.24	
1,2-Dichloroethane-D4	17060-07-0	87	%	80-120	03.09.16 15.24	
Toluene-D8	2037-26-5	89	%	73-132	03.09.16 15.24	

Certificate of Analytical Results 526483

ARCADIS, Midland, TX

Moran No. 2-6 Initial Site Assessment

Sample Id:	**D-S-9'-160308**	Matrix:	Soil	Date Received:	03.09.16 09.30
Lab Sample Id:	526483-002	Date Collected:	03.08.16 16.08	Sample Depth:	9 ft
Analytical Method:	TPH GRO by SW46-8015			Prep Method:	SW5030B
Tech:	SAD			% Moisture:	11.7
Analyst:	SAD	Date Prep:	03.16.16 16.30	Basis:	Dry Weight
Seq Number:	990448				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.842	5.72	0.842	mg/kg	03.16.16 17.54	U	50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	80-120	03.16.16 17.54	

ARCADIS, Midland, TX

Moran No. 2-6 Initial Site Assessment

Sample Id: **F-S-25'-160308** Matrix: Soil Date Received:03.09.16 09.30
Lab Sample Id: 526483-003 Date Collected: 03.08.16 15.39 Sample Depth: 25 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
Tech: DEP % Moisture: 25.7
Analyst: DEP Date Prep: 03.14.16 11.28 Basis: Dry Weight
Seq Number: 990268

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.1**	2.65	0.469	mg/kg	03.14.16 23.52		1

Analytical Method: TPH DRO-ORO by SW846-8015 Prep Method: SW3550
Tech: SOK % Moisture: 25.7
Analyst: PKH Date Prep: 03.11.16 15.18 Basis: Dry Weight
Seq Number: 990310

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-DRO (C10-C28)	68334-30-5	**3930**	11.2	7.01	mg/kg	03.14.16 19.36		5
TPH-ORO (C28-C35) *	C20C38ORO	**1060**	22.2	7.01	mg/kg	03.14.16 19.36		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Pentacosane	629-99-2	78	%	40-130	03.14.16 19.36	

Analytical Method: BTEX by SW 8260B Prep Method: SW5030B
Tech: JTR % Moisture: 25.7
Analyst: JTR Date Prep: 03.09.16 16.54 Basis: Dry Weight
Seq Number: 989949

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00641	0.0333	0.00641	mg/kg	03.09.16 18.08	U	25
Toluene	108-88-3	**0.113**	0.0333	0.00431	mg/kg	03.09.16 18.08		25
Ethylbenzene	100-41-4	**2.65**	0.0333	0.00318	mg/kg	03.09.16 18.08		25
m,p-Xylenes	179601-23-1	**9.39**	0.0666	0.0121	mg/kg	03.09.16 18.08		25
o-Xylene	95-47-6	**4.31**	0.0333	0.00763	mg/kg	03.09.16 18.08		25
Total Xylenes	1330-20-7	**13.7**	0.0333	0.00763	mg/kg	03.09.16 18.08		25
Total BTEX		**16.5**	0.0333	0.00318	mg/kg	03.09.16 18.08		25

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	82	%	74-126	03.09.16 18.08	
1,2-Dichloroethane-D4	17060-07-0	80	%	80-120	03.09.16 18.08	
Toluene-D8	2037-26-5	84	%	73-132	03.09.16 18.08	

Certificate of Analytical Results 526483

ARCADIS, Midland, TX

Moran No. 2-6 Initial Site Assessment

Sample Id:	**F-S-25'-160308**	Matrix:	Soil	Date Received:	03.09.16 09.30
Lab Sample Id:	526483-003	Date Collected:	03.08.16 15.39	Sample Depth:	25 ft
Analytical Method:	TPH GRO by SW46-8015			Prep Method:	SW5030B
Tech:	SAD			% Moisture:	25.7
Analyst:	SAD	Date Prep:	03.16.16 16.30	Basis:	Dry Weight
Seq Number:	990448				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**1920**	270	39.8	mg/kg	03.16.16 21.52		2000

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	80-120	03.16.16 21.52	

ARCADIS, Midland, TX

Moran No. 2-6 Initial Site Assessment

Sample Id: **E-S-16'-160308** Matrix: Soil Date Received:03.09.16 09.30
Lab Sample Id: 526483-004 Date Collected: 03.08.16 16.47 Sample Depth: 16 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
Tech: DEP % Moisture: 27.9
Analyst: DEP Date Prep: 03.14.16 11.28 Basis: Dry Weight
Seq Number: 990268

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**26.8**	2.77	0.490	mg/kg	03.15.16 00.06		1

Analytical Method: TPH DRO-ORO by SW846-8015 Prep Method: SW3550
Tech: SOK % Moisture: 27.9
Analyst: PKH Date Prep: 03.11.16 15.21 Basis: Dry Weight
Seq Number: 990310

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-DRO (C10-C28)	68334-30-5	**28.5**	2.31	1.44	mg/kg	03.14.16 19.19		1
TPH-ORO (C28-C35) *	C20C38ORO	**12.6**	4.58	1.44	mg/kg	03.14.16 19.19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Pentacosane	629-99-2	87	%	40-130	03.14.16 19.19	

Analytical Method: BTEX by SW 8260B Prep Method: SW5030B
Tech: JTR % Moisture: 27.9
Analyst: JTR Date Prep: 03.09.16 15.11 Basis: Dry Weight
Seq Number: 989949

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000264	0.00137	0.000264	mg/kg	03.09.16 15.43	U	1
Toluene	108-88-3	<0.000178	0.00137	0.000178	mg/kg	03.09.16 15.43	U	1
Ethylbenzene	100-41-4	<0.000131	0.00137	0.000131	mg/kg	03.09.16 15.43	U	1
m,p-Xylenes	179601-23-1	**0.00111**	0.00275	0.000497	mg/kg	03.09.16 15.43	J	1
o-Xylene	95-47-6	**0.000618**	0.00137	0.000315	mg/kg	03.09.16 15.43	J	1
Total Xylenes	1330-20-7	**0.00173**	0.00137	0.000315	mg/kg	03.09.16 15.43		1
Total BTEX		**0.00173**	0.00137	0.000131	mg/kg	03.09.16 15.43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	97	%	74-126	03.09.16 15.43	
1,2-Dichloroethane-D4	17060-07-0	81	%	80-120	03.09.16 15.43	
Toluene-D8	2037-26-5	95	%	73-132	03.09.16 15.43	

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Moran No. 2-6 Initial Site Assessment

Sample Id:	**E-S-16'-160308**	Matrix:	Soil	Date Received:	03.09.16 09.30
Lab Sample Id:	526483-004	Date Collected:	03.08.16 16.47	Sample Depth:	16 ft
Analytical Method:	TPH GRO by SW46-8015			Prep Method:	SW5030B
Tech:	SAD			% Moisture:	27.9
Analyst:	SAD	Date Prep:	03.16.16 16.30	Basis:	Dry Weight
Seq Number:	990448				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<1.02	6.95	1.02	mg/kg	03.16.16 19.23	U	50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	80-120	03.16.16 19.23	

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Moran No. 2-6 Initial Site Assessment

Sample Id: **I-S-11'-160308** Matrix: Soil Date Received:03.09.16 09.30
Lab Sample Id: 526483-005 Date Collected: 03.08.16 15.25 Sample Depth: 11 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
Tech: DEP % Moisture: 27.56
Analyst: DEP Date Prep: 03.14.16 11.28 Basis: Dry Weight
Seq Number: 990268

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**27.6**	2.75	0.487	mg/kg	03.15.16 00.21		1

Analytical Method: TPH DRO-ORO by SW846-8015 Prep Method: SW3550
Tech: SOK % Moisture: 27.56
Analyst: PKH Date Prep: 03.11.16 15.24 Basis: Dry Weight
Seq Number: 990310

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-DRO (C10-C28)	68334-30-5	**120**	11.5	7.17	mg/kg	03.14.16 19.53		5
TPH-ORO (C28-C35) *	C20C38ORO	**132**	22.7	7.17	mg/kg	03.14.16 19.53		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Pentacosane	629-99-2	90	%	40-130	03.14.16 19.53	

Analytical Method: BTEX by SW 8260B Prep Method: SW5030B
Tech: JTR % Moisture: 27.56
Analyst: JTR Date Prep: 03.09.16 16.53 Basis: Dry Weight
Seq Number: 989949

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000266	0.00138	0.000266	mg/kg	03.09.16 17.53	U	1
Toluene	108-88-3	<0.000179	0.00138	0.000179	mg/kg	03.09.16 17.53	U	1
Ethylbenzene	100-41-4	<0.000132	0.00138	0.000132	mg/kg	03.09.16 17.53	U	1
m,p-Xylenes	179601-23-1	<0.000500	0.00277	0.000500	mg/kg	03.09.16 17.53	U	1
o-Xylene	95-47-6	<0.000317	0.00138	0.000317	mg/kg	03.09.16 17.53	U	1
Total Xylenes	1330-20-7	<0.000317	0.00138	0.000317	mg/kg	03.09.16 17.53	U	1
Total BTEX		<0.000132	0.00138	0.000132	mg/kg	03.09.16 17.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	100	%	74-126	03.09.16 17.53	
1,2-Dichloroethane-D4	17060-07-0	98	%	80-120	03.09.16 17.53	
Toluene-D8	2037-26-5	92	%	73-132	03.09.16 17.53	

ARCADIS, Midland, TX

Moran No. 2-6 Initial Site Assessment

Sample Id:	**I-S-11'-160308**	Matrix:	Soil	Date Received:	03.09.16 09.30
Lab Sample Id:	526483-005	Date Collected:	03.08.16 15.25	Sample Depth:	11 ft
Analytical Method:	TPH GRO by SW46-8015			Prep Method:	SW5030B
Tech:	SAD			% Moisture:	27.56
Analyst:	SAD	Date Prep:	03.16.16 16.30	Basis:	Dry Weight
Seq Number:	990448				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<1.01	6.89	1.01	mg/kg	03.16.16 18.24	U	50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	80-120	03.16.16 18.24	

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Moran No. 2-6 Initial Site Assessment

Sample Id: **C-S-13'-160308** Matrix: Soil Date Received:03.09.16 09.30
Lab Sample Id: 526483-006 Date Collected: 03.08.16 15.20 Sample Depth: 13 ft

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
Tech: DEP % Moisture: 25.67
Analyst: DEP Date Prep: 03.14.16 11.28 Basis: Dry Weight
Seq Number: 990268

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.3**	2.67	0.473	mg/kg	03.15.16 00.35		1

Analytical Method: TPH DRO-ORO by SW846-8015 Prep Method: SW3550
Tech: SOK % Moisture: 25.67
Analyst: PKH Date Prep: 03.11.16 15.27 Basis: Dry Weight
Seq Number: 990310

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-DRO (C10-C28)	68334-30-5	**82.2**	11.2	7.00	mg/kg	03.14.16 20.10		5
TPH-ORO (C28-C35) *	C20C38ORO	**158**	22.2	7.00	mg/kg	03.14.16 20.10		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Pentacosane	629-99-2	93	%	40-130	03.14.16 20.10	

Analytical Method: BTEX by SW 8260B Prep Method: SW5030B
Tech: JTR % Moisture: 25.67
Analyst: JTR Date Prep: 03.09.16 16.52 Basis: Dry Weight
Seq Number: 989949

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000257	0.00134	0.000257	mg/kg	03.09.16 17.38	U	1
Toluene	108-88-3	<0.000173	0.00134	0.000173	mg/kg	03.09.16 17.38	U	1
Ethylbenzene	100-41-4	<0.000128	0.00134	0.000128	mg/kg	03.09.16 17.38	U	1
m,p-Xylenes	179601-23-1	<0.000484	0.00267	0.000484	mg/kg	03.09.16 17.38	U	1
o-Xylene	95-47-6	<0.000306	0.00134	0.000306	mg/kg	03.09.16 17.38	U	1
Total Xylenes	1330-20-7	<0.000306	0.00134	0.000306	mg/kg	03.09.16 17.38	U	1
Total BTEX		<0.000128	0.00134	0.000128	mg/kg	03.09.16 17.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	97	%	74-126	03.09.16 17.38	
1,2-Dichloroethane-D4	17060-07-0	92	%	80-120	03.09.16 17.38	
Toluene-D8	2037-26-5	106	%	73-132	03.09.16 17.38	

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Moran No. 2-6 Initial Site Assessment

Sample Id:	**C-S-13'-160308**	Matrix:	Soil	Date Received:	03.09.16 09.30
Lab Sample Id:	526483-006	Date Collected:	03.08.16 15.20	Sample Depth:	13 ft
Analytical Method:	TPH GRO by SW46-8015			Prep Method:	SW5030B
Tech:	SAD			% Moisture:	25.67
Analyst:	SAD	Date Prep:	03.16.16 16.30	Basis:	Dry Weight
Seq Number:	990448				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	<0.980	6.66	0.980	mg/kg	03.16.16 18.53	U	50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	80-120	03.16.16 18.53	

ARCADIS, Midland, TX

Moran No. 2-6 Initial Site Assessment

Sample Id: **Trip Blank** Matrix: Water Date Received:03.09.16 09.30

Lab Sample Id: 526483-007 Date Collected: 03.08.16 00.00

Analytical Method: BTEX by SW 8260B Prep Method: SW5030B

Tech: JTR % Moisture:

Analyst: JTR Date Prep: 03.10.16 12.50

Seq Number: 990042

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000147	0.00100	0.000147	mg/L	03.10.16 13.24	U	1
Toluene	108-88-3	<0.000153	0.00100	0.000153	mg/L	03.10.16 13.24	U	1
Ethylbenzene	100-41-4	<0.0000806	0.00100	0.0000806	mg/L	03.10.16 13.24	U	1
m,p-Xylenes	179601-23-1	<0.000366	0.00200	0.000366	mg/L	03.10.16 13.24	U	1
o-Xylene	95-47-6	<0.0000975	0.00100	0.0000975	mg/L	03.10.16 13.24	U	1
Total Xylenes	1330-20-7	<0.0000975	0.00100	0.0000975	mg/L	03.10.16 13.24	U	1
Total BTEX		<0.0000806	0.00100	0.0000806	mg/L	03.10.16 13.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
Dibromofluoromethane	1868-53-7	100	%	75-131	03.10.16 13.24	
1,2-Dichloroethane-D4	17060-07-0	96	%	63-144	03.10.16 13.24	
Toluene-D8	2037-26-5	96	%	80-117	03.10.16 13.24	

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Moran No. 2-6 Initial Site Assessment

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 990268 — Matrix: Solid — Date Prep: 03.14.16
MB Sample Id: 706369-1-BLK — LCS Sample Id: 706369-1-BKS — LCSD Sample Id: 706369-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.354	100	104	104	104	104	90-110	0	20	mg/kg	03.14.16 17:28	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 990268 — Matrix: Soil — Date Prep: 03.14.16
Parent Sample Id: 526285-001 — MS Sample Id: 526285-001 S — MSD Sample Id: 526285-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2150	1980	4140	101	4140	101	80-120	0	20	mg/kg	03.14.16 20:02	

Analytical Method: Inorganic Anions by EPA 300 — Prep Method: E300P
Seq Number: 990268 — Matrix: Soil — Date Prep: 03.14.16
Parent Sample Id: 526285-002 — MS Sample Id: 526285-002 S — MSD Sample Id: 526285-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3340	1960	5280	99	5270	98	80-120	0	20	mg/kg	03.14.16 23:09	

Analytical Method: Percent Moisture
Seq Number: 990097 — Matrix: Solid
MB Sample Id: 990097-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Percent Moisture	<1.00	%	03.11.16 15:39	

Analytical Method: Percent Moisture
Seq Number: 990097 — Matrix: Soil
Parent Sample Id: 526483-002 — MD Sample Id: 526483-002 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	11.7	12.1	3	20	%	03.11.16 15:39	

Analytical Method: Percent Moisture
Seq Number: 990097 — Matrix: Soil
Parent Sample Id: 526574-006 — MD Sample Id: 526574-006 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	25.1	25.3	1	20	%	03.11.16 15:39	

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Moran No. 2-6 Initial Site Assessment

Analytical Method: TPH DRO-ORO by SW846-8015 Prep Method: SW3550
Seq Number: 990310 Matrix: Solid Date Prep: 03.11.16
MB Sample Id: 706217-1-BLK LCS Sample Id: 706217-1-BKS LCSD Sample Id: 706217-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-DRO (C10-C28)	<1.04	33.3	42.0	126	40.7	122	70-130	3	35	mg/kg	03.14.16 17:54	
TPH-ORO (C28-C35)	<1.04	33.3	37.1	111	36.6	110	70-130	1	35	mg/kg	03.14.16 17:54	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Pentacosane	80		87		88		40-130	%	03.14.16 17:54

Analytical Method: TPH DRO-ORO by SW846-8015 Prep Method: SW3550
Seq Number: 990310 Matrix: Soil Date Prep: 03.11.16
Parent Sample Id: 526483-002 MS Sample Id: 526483-002 S MSD Sample Id: 526483-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-DRO (C10-C28)	3.59	37.8	44.2	107	43.1	105	70-130	3	35	mg/kg	03.14.16 18:45	
TPH-ORO (C28-C35)	1.63	37.8	32.7	82	31.1	78	70-130	5	35	mg/kg	03.14.16 18:45	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Pentacosane	97		87		40-130	%	03.14.16 18:45

Analytical Method: BTEX by SW 8260B Prep Method: SW5030B
Seq Number: 989949 Matrix: Solid Date Prep: 03.09.16
MB Sample Id: 706164-1-BLK LCS Sample Id: 706164-1-BKS LCSD Sample Id: 706164-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000192	0.100	0.0862	86	0.0843	84	62-132	2	25	mg/kg	03.09.16 11:40	
Toluene	<0.000129	0.100	0.0944	94	0.0946	95	66-124	0	25	mg/kg	03.09.16 11:40	
Ethylbenzene	<0.0000955	0.100	0.0998	100	0.0946	95	71-134	5	25	mg/kg	03.09.16 11:40	
m,p-Xylenes	<0.000362	0.200	0.210	105	0.198	99	69-128	6	25	mg/kg	03.09.16 11:40	
o-Xylene	<0.000229	0.100	0.103	103	0.0996	100	72-131	3	25	mg/kg	03.09.16 11:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	92		85		92		74-126	%	03.09.16 11:40
1,2-Dichloroethane-D4	82		90		95		80-120	%	03.09.16 11:40
Toluene-D8	96		99		99		73-132	%	03.09.16 11:40

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Moran No. 2-6 Initial Site Assessment

Analytical Method: **BTEX by SW 8260B** Prep Method: SW5030B
Seq Number: 990042 Matrix: Water Date Prep: 03.10.16
MB Sample Id: 706228-1-BLK LCS Sample Id: 706228-1-BKS LCSD Sample Id: 706228-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000147	0.100	0.116	116	0.113	113	66-142	3	20	mg/L	03.10.16 10:07	
Toluene	<0.000153	0.100	0.0995	100	0.0968	97	59-139	3	20	mg/L	03.10.16 10:07	
Ethylbenzene	<0.0000806	0.100	0.103	103	0.0996	100	75-125	3	20	mg/L	03.10.16 10:07	
m,p-Xylenes	<0.000366	0.200	0.207	104	0.199	100	75-125	4	20	mg/L	03.10.16 10:07	
o-Xylene	<0.0000975	0.100	0.105	105	0.101	101	75-125	4	20	mg/L	03.10.16 10:07	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	98		95		96		75-131	%	03.10.16 10:07
1,2-Dichloroethane-D4	97		107		107		63-144	%	03.10.16 10:07
Toluene-D8	96		102		102		80-117	%	03.10.16 10:07

Analytical Method: **BTEX by SW 8260B** Prep Method: SW5030B
Seq Number: 989949 Matrix: Soil Date Prep: 03.09.16
Parent Sample Id: 526483-002 MS Sample Id: 526483-002 S MSD Sample Id: 526483-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000217	0.113	0.0880	78	0.0941	84	62-132	7	25	mg/kg	03.09.16 16:01	
Toluene	<0.000146	0.113	0.101	89	0.106	95	66-124	5	25	mg/kg	03.09.16 16:01	
Ethylbenzene	<0.000108	0.113	0.106	94	0.106	95	71-134	0	25	mg/kg	03.09.16 16:01	
m,p-Xylenes	<0.000409	0.226	0.225	100	0.224	100	69-128	0	25	mg/kg	03.09.16 16:01	
o-Xylene	<0.000259	0.113	0.111	98	0.112	100	72-131	1	25	mg/kg	03.09.16 16:01	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	97		94		74-126	%	03.09.16 16:01
1,2-Dichloroethane-D4	108		104		80-120	%	03.09.16 16:01
Toluene-D8	98		100		73-132	%	03.09.16 16:01

Analytical Method: **BTEX by SW 8260B** Prep Method: SW5030B
Seq Number: 990042 Matrix: Water Date Prep: 03.10.16
Parent Sample Id: 526317-001 MS Sample Id: 526317-001 S MSD Sample Id: 526317-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000147	0.100	0.119	119	0.115	115	66-142	3	20	mg/L	03.10.16 15:03	
Toluene	<0.000153	0.100	0.100	100	0.100	100	59-139	0	20	mg/L	03.10.16 15:03	
Ethylbenzene	<0.0000806	0.100	0.105	105	0.103	103	75-125	2	20	mg/L	03.10.16 15:03	
m,p-Xylenes	<0.000366	0.200	0.209	105	0.206	103	75-125	1	20	mg/L	03.10.16 15:03	
o-Xylene	<0.0000975	0.100	0.107	107	0.103	103	75-125	4	20	mg/L	03.10.16 15:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	98		94		75-131	%	03.10.16 15:03
1,2-Dichloroethane-D4	106		96		63-144	%	03.10.16 15:03
Toluene-D8	102		103		80-117	%	03.10.16 15:03

ARCADIS

Moran No. 2-6 Initial Site Assessment

Analytical Method: **TPH GRO by SW46-8015** Prep Method: SW5030B
Seq Number: 990448 Matrix: Solid Date Prep: 03.16.16
MB Sample Id: 706467-1-BLK LCS Sample Id: 706467-1-BKS LCSD Sample Id: 706467-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<0.736	25.0	25.2	101	27.9	112	75-135	10	35	mg/kg	03.16.16 15:33	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	113		101		98		80-120	%	03.16.16 15:33

Analytical Method: **TPH GRO by SW46-8015** Prep Method: SW5030B
Seq Number: 990448 Matrix: Soil Date Prep: 03.16.16
Parent Sample Id: 526483-002 MS Sample Id: 526483-002 S MSD Sample Id: 526483-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO	<0.842	28.6	28.9	101	29.5	103	75-135	2	35	mg/kg	03.16.16 19:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	109		101		80-120	%	03.16.16 19:53

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)

Dallas Texas (214-902-0300)

Service Center - San Antonio, Texas (210-509-3334)

Odessa, Texas (432-563-1800)

Norcross, Georgia (770-449-8800)

Lakeland, Florida (863-646-8526)

Tampa, Florida (813-620-2000)

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Xenco Quote #

Xenco Job # 520483-1

Client / Reporting Information

Company Name / Branch: Arcadis-US

Company Address: 2929 Briarpark Drive Suite 300 Houston TX 77042

Email: Priscilla.Yelvington@arcadis.com

Phone No: 713-953-4717

Project Contact: Priscilla Yelvington

Samplers's Name Ryan Nanny

Project Information

Project Name/Number: Moran No.2-6 Initial Site Assessment/ UWDDB-A6009-ABS

Project Location:

Invoice To: Chevron

PO Number:

Analytical Information

Matrix Codes

S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
W = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	8015 GRO/DRO/ORO	EPA300 Chlorides	8260 BTEX	% Moisture	Field Comments
1	D-S-16'-160308	16'	3-8-16	1710	S	2								X	X	X	X	X	Hold Sample
2	D-S-9'-160308	9'	3-8-16	1608	S	2								X	X	X	X	X	
3	F-S-25'-160308	25'	3-8-16	1539	S	2								X	X	X	X	X	
4	E-S-16'-160308	16'	3-8-16	1647	S	2								X	X	X	X	X	
5	I-S-11'-160308	11'	3-8-16	1525	S	2								X	X	X	X	X	
6	C-S-13'-160308	13'	3-8-16	1520	S	2								X	X	X	X	X	
7	~~TB~~ 3-8-16 TI-W-O-160308	0'	3-8-16	—	W	3	X										X		
8																			
9																			
10																			

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [x] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [x] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		3-8-16 2000	1	2 FedEx 3911	0930	2 Tanya Harkins
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice

Temp: 3 · COR ID:HOU-025
C/F:+0.2
Corrected Temp: 3.2°c

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to XENCO Laboratories and its affiliates, subcontractors and assigns XENCO's standard terms and conditions of service unless previously negot

CHAIN-OF-CUSTODY SEAL • CHAIN-OF-CUSTODY SEAL
CHAIN-OF-CUSTODY SEAL • CHAIN-OF-CUSTODY SEAL
ARCADIS

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: ARCADIS

Date/ Time Received: 03/09/2016 09:30:00 AM

Work Order #: 526483

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : hou025

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**N/A**
#6 *Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Sample instructions complete on Chain of Custody?	**Yes**
#9 Any missing/extra samples?	**No**
#10 Chain of Custody signed when relinquished/ received?	**Yes**
#11 Chain of Custody agrees with sample label(s)?	**Yes**
#12 Container label(s) legible and intact?	**Yes**
#13 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#14 Samples in proper container/ bottle?	**Yes**
#15 Samples properly preserved?	**Yes**
#16 Sample container(s) intact?	**Yes**
#17 Sufficient sample amount for indicated test(s)?	**Yes**
#18 All samples received within hold time?	**Yes**
#19 Subcontract of sample(s)?	**N/A**
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	**N/A**
#21 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	**N/A**
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: th

PH Device/Lot#:

Checklist completed by: Tanya Torres Date: 03/09/2016

Checklist reviewed by: Kelsey Brooks Date: 03/10/2016

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031416A\F0314029.D Vial: 10
Acq On : 14 Mar 2016 6:45 pm Operator: PKH-A38
Sample : 526483-002 S Inst : A38
Misc : SOLID Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 15 8:52 2016 Quant Results File: DR031416.RES

Quant Method : C:\HPCHEM\1\METHODS\DR031416.M (Chemstation Integrator)
Title : SW8015DRO FRONT DETECTOR A38
Last Update : Mon Mar 14 14:35:06 2016
Response via : Initial Calibration
DataAcq Meth : A38FR.M

Volume Inj. :
Signal Phase :
Signal Info :

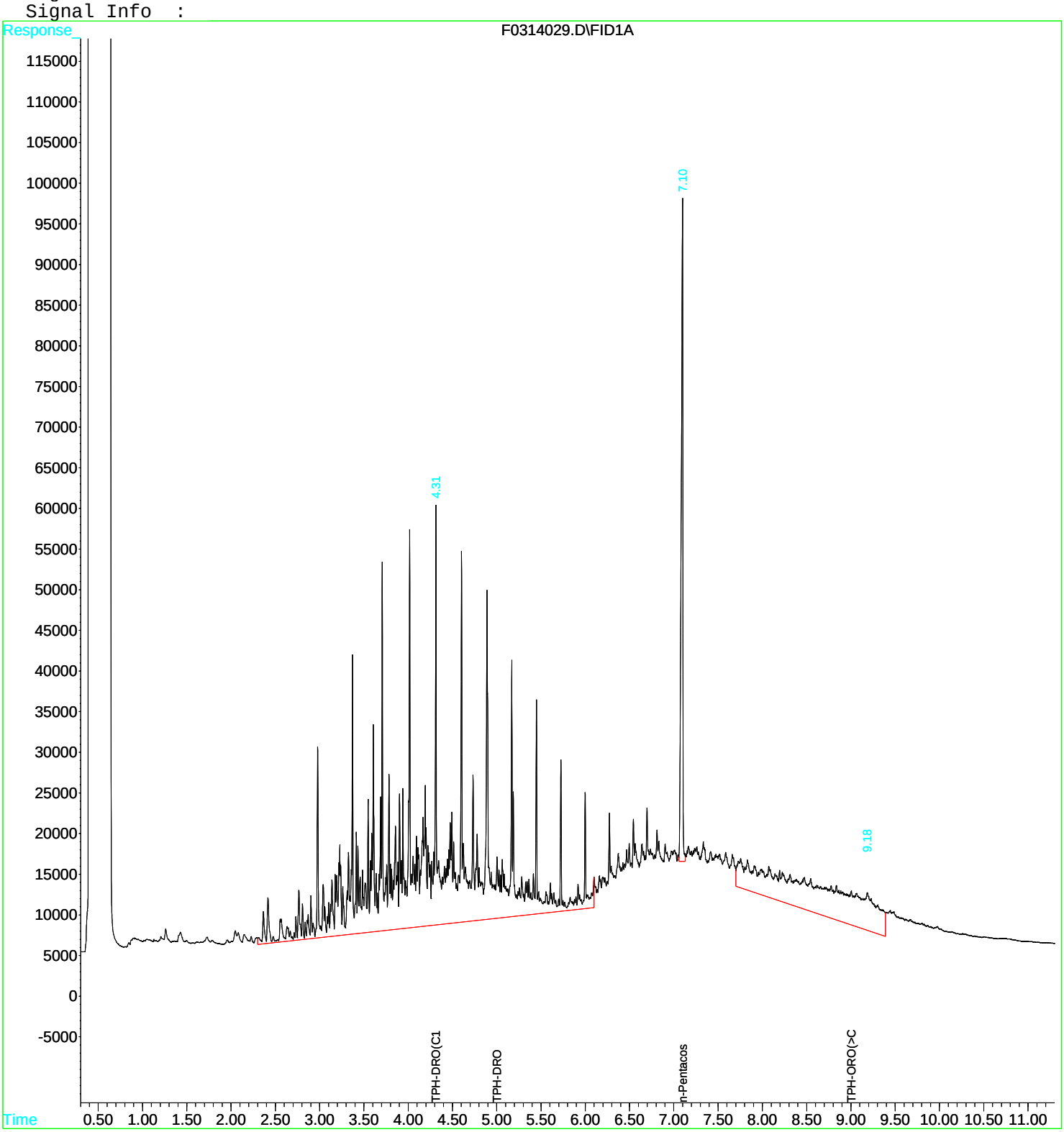
	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
4) S	n-Pentacosane	7.10f	1049734	48.525	PPM	m
	Target Compounds					
1) H	TPH-DRO(C10-C22)	4.30	11317121	948.535	PPM	
2) H	TPH-ORO(>C28-C35)	9.00	3271946	866.159	PPM	
3) H	TPH-DRO	5.00	17125467	1169.858	ppm	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031416A\F0314029.D Vial: 10
Acq On : 14 Mar 2016 6:45 pm Operator: PKH-A38
Sample : 526483-002 S Inst : A38
Misc : SOLID Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 15 8:52 2016 Quant Results File: DR031416.RES

Quant Method : C:\HPCHEM\1\METHODS\DR031416.M (Chemstation Integrator)
Title : SW8015DRO FRONT DETECTOR A38
Last Update : Mon Mar 14 14:35:06 2016
Response via : Multiple Level Calibration
DataAcq Meth : A38FR.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031416A\F0314032.D Vial: 13
Acq On : 14 Mar 2016 7:36 pm Operator: PKH-A38
Sample : 526483-003 *5* Inst : A38
Misc : SOLID Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 15 8:54 2016 Quant Results File: DR031416.RES

Quant Method : C:\HPCHEM\1\METHODS\DR031416.M (Chemstation Integrator)
Title : SW8015DRO FRONT DETECTOR A38
Last Update : Mon Mar 14 14:35:06 2016
Response via : Initial Calibration
DataAcq Meth : A38FR.M

Volume Inj. :
Signal Phase :
Signal Info :

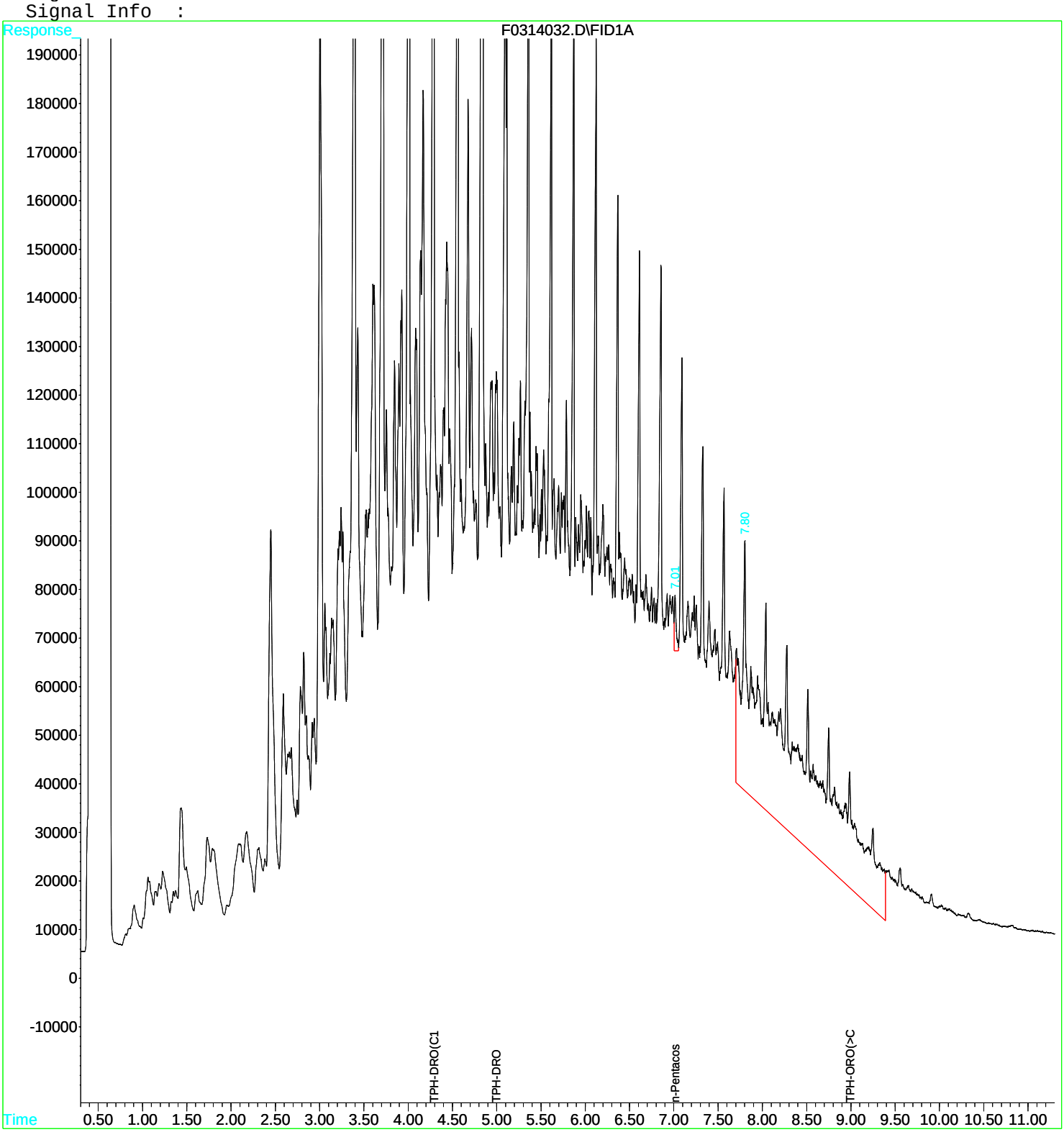
	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
4) S	n-Pentacosane	7.01	168746	7.801	PPM	m
	Target Compounds					
1) H	TPH-DRO(C10-C22)	4.30	137992485	11565.719	PPM	
2) H	TPH-ORO(>C28-C35)	9.00	17877214	4732.511	PPM	
3) H	TPH-DRO	5.00	256134150	17496.784	ppm	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031416A\F0314032.D Vial: 13
Acq On : 14 Mar 2016 7:36 pm Operator: PKH-A38
Sample : 526483-003 *5* Inst : A38
Misc : SOLID Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 15 8:54 2016 Quant Results File: DR031416.RES

Quant Method : C:\HPCHEM\1\METHODS\DR031416.M (Chemstation Integrator)
Title : SW8015DRO FRONT DETECTOR A38
Last Update : Mon Mar 14 14:35:06 2016
Response via : Multiple Level Calibration
DataAcq Meth : A38FR.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031516A\F0315005.D Vial: 4
Acq On : 15 Mar 2016 12:01 pm Operator: PKH-A38
Sample : 526483-003 DL *20* Inst : A38
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 15 12:53 2016 Quant Results File: DR031416.RES

Quant Method : C:\HPCHEM\1\METHODS\DR031416.M (Chemstation Integrator)
Title : SW8015DRO FRONT DETECTOR A38
Last Update : Tue Mar 15 12:51:21 2016
Response via : Initial Calibration
DataAcq Meth : A38FR.M

Volume Inj. :
Signal Phase :
Signal Info :

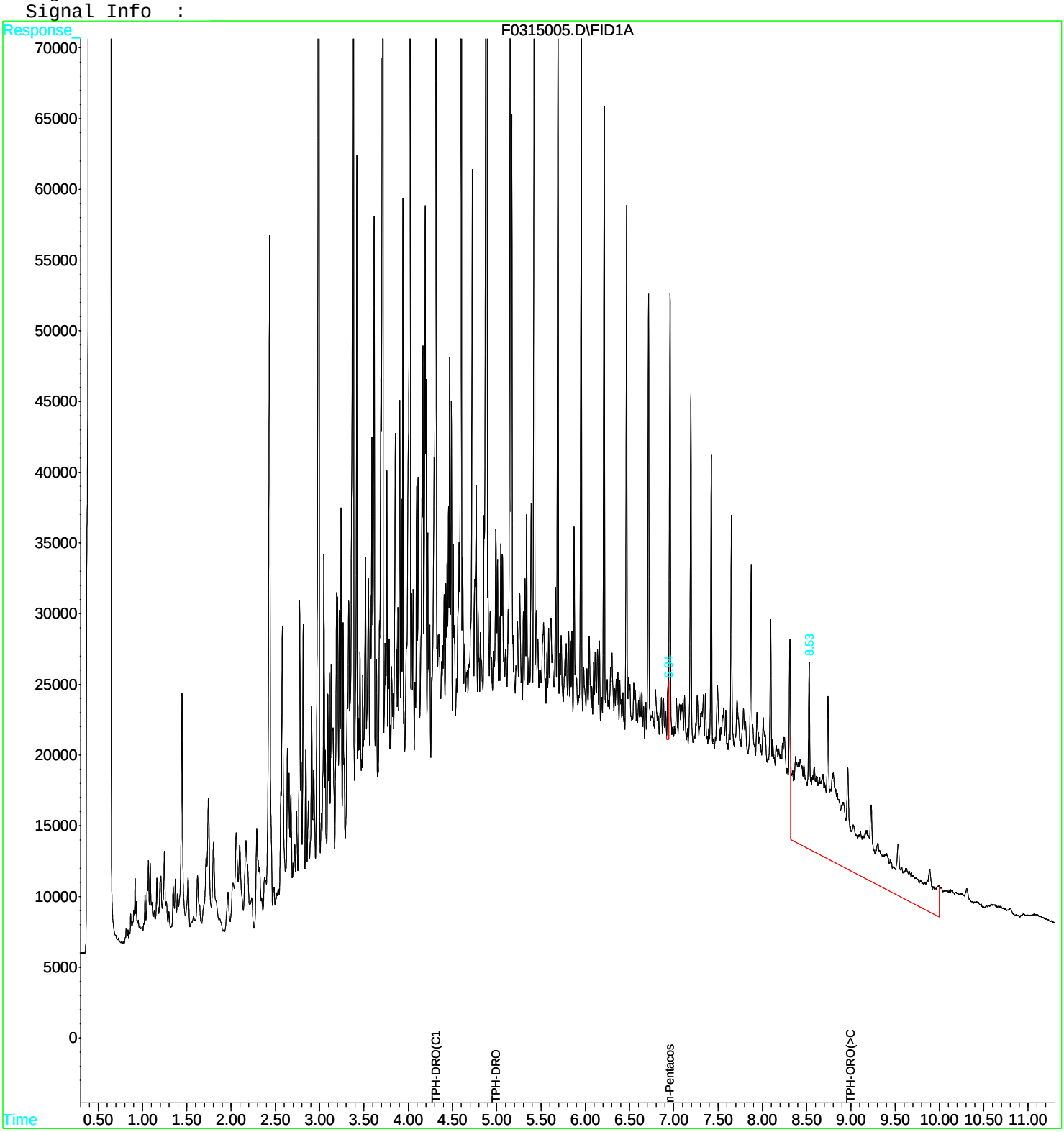
	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
4) S	n-Pentacosane	6.94	37551	1.736	PPM	m
	Target Compounds					
1) H	TPH-DRO(C10-C22)	4.30	32844670	2752.847	PPM	
2) H	TPH-ORO(>C28-C35)	9.00	3572268	945.662	PPM	
3) H	TPH-DRO	5.00	67783622	4630.368	ppm	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031516A\F0315005.D Vial: 4
Acq On : 15 Mar 2016 12:01 pm Operator: PKH-A38
Sample : 526483-003 DL *20* Inst : A38
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 15 12:53 2016 Quant Results File: DR031416.RES

Quant Method : C:\HPCHEM\1\METHODS\DR031416.M (Chemstation Integrator)
Title : SW8015DRO FRONT DETECTOR A38
Last Update : Tue Mar 15 12:51:21 2016
Response via : Multiple Level Calibration
DataAcq Meth : A38FR.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031416A\F0314031.D Vial: 12
Acq On : 14 Mar 2016 7:19 pm Operator: PKH-A38
Sample : 526483-004 Inst : A38
Misc : SOLID Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 15 8:53 2016 Quant Results File: DR031416.RES

Quant Method : C:\HPCHEM\1\METHODS\DR031416.M (Chemstation Integrator)
Title : SW8015DRO FRONT DETECTOR A38
Last Update : Mon Mar 14 14:35:06 2016
Response via : Initial Calibration
DataAcq Meth : A38FR.M

Volume Inj. :
Signal Phase :
Signal Info :

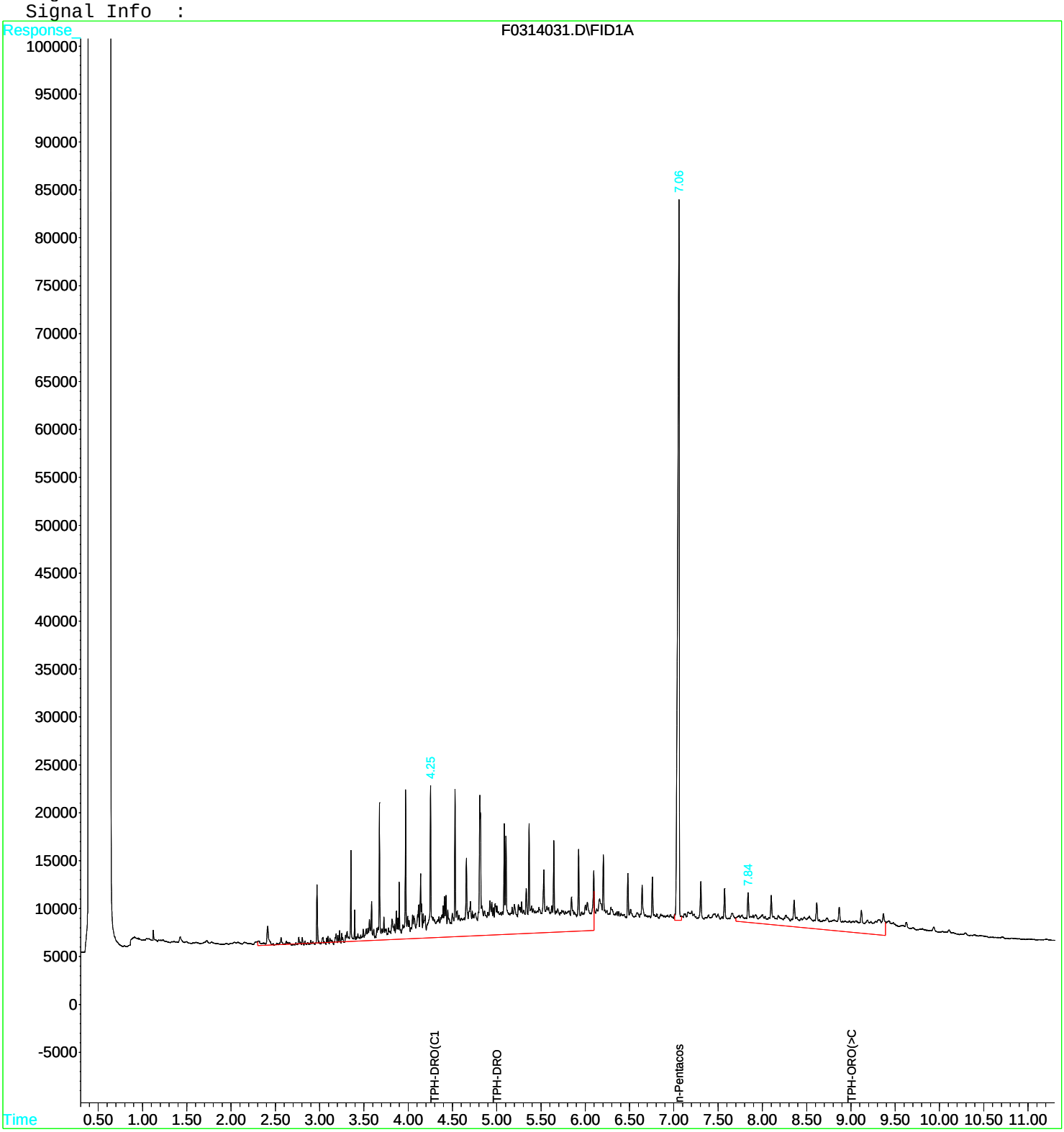
	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
4) S	n-Pentacosane	7.06f	944105	43.643	PPM	m
	Target Compounds					
1) H	TPH-DRO(C10-C22)	4.30	4029022	337.689	PPM	
2) H	TPH-ORO(>C28-C35)	9.00	1030253	272.732	PPM	
3) H	TPH-DRO	5.00	9003734	615.054	ppm	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031416A\F0314031.D Vial: 12
Acq On : 14 Mar 2016 7:19 pm Operator: PKH-A38
Sample : 526483-004 Inst : A38
Misc : SOLID Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 15 8:53 2016 Quant Results File: DR031416.RES

Quant Method : C:\HPCHEM\1\METHODS\DR031416.M (Chemstation Integrator)
Title : SW8015DRO FRONT DETECTOR A38
Last Update : Mon Mar 14 14:35:06 2016
Response via : Multiple Level Calibration
DataAcq Meth : A38FR.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031416A\F0314033.D Vial: 14
Acq On : 14 Mar 2016 7:53 pm Operator: PKH-A38
Sample : 526483-005 *5* Inst : A38
Misc : SOLID Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 15 8:55 2016 Quant Results File: DR031416.RES

Quant Method : C:\HPCHEM\1\METHODS\DR031416.M (Chemstation Integrator)
Title : SW8015DRO FRONT DETECTOR A38
Last Update : Mon Mar 14 14:35:06 2016
Response via : Initial Calibration
DataAcq Meth : A38FR.M

Volume Inj. :
Signal Phase :
Signal Info :

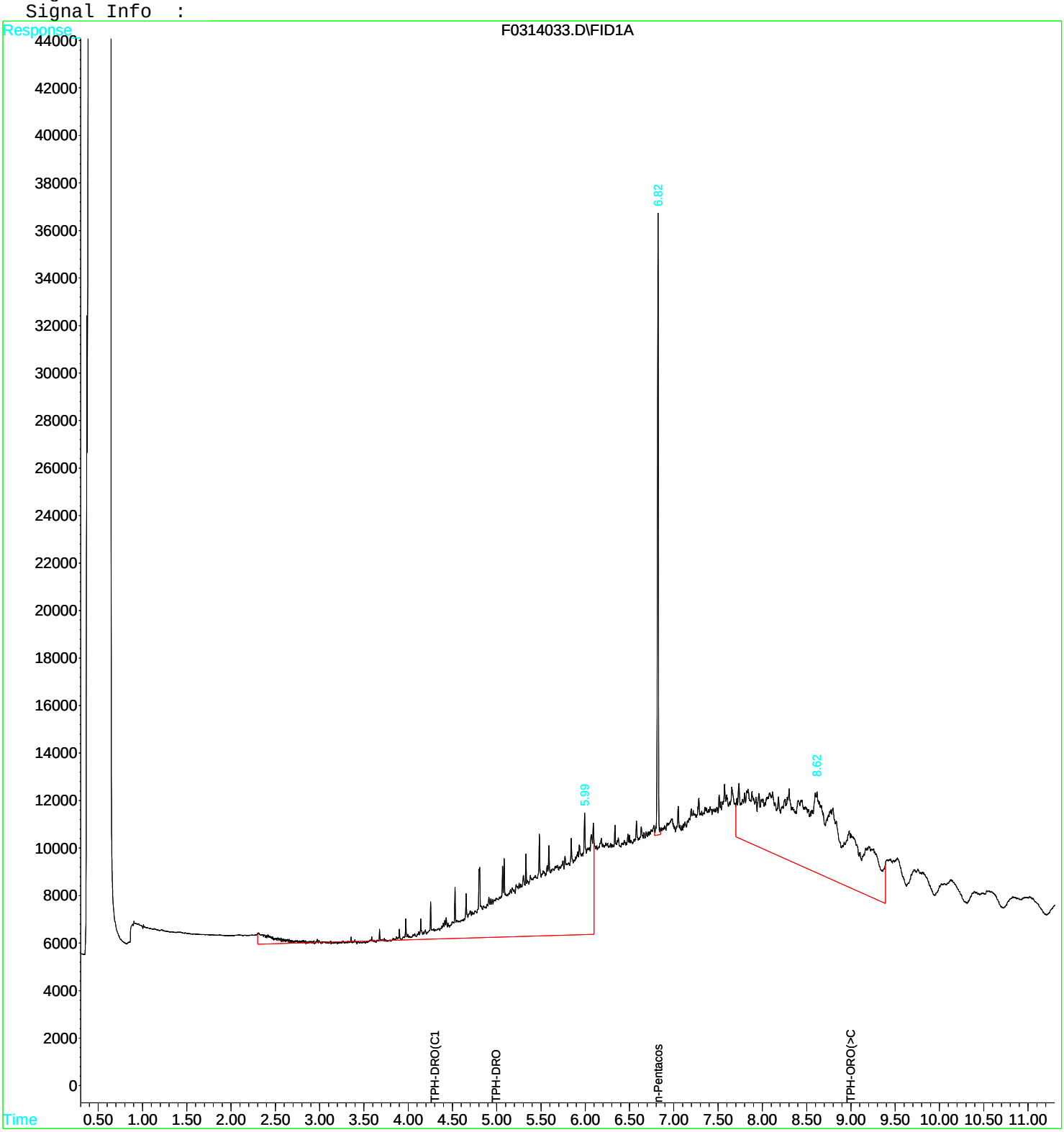
	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
4) S	n-Pentacosane	6.82f	193892	8.963	PPM	m
	Target Compounds					
1) H	TPH-DRO(C10-C22)	4.30	2354794	197.365	PPM	
2) H	TPH-ORO(>C28-C35)	9.00	2167527	573.794	PPM	
3) H	TPH-DRO	5.00	7639631	521.871	ppm	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031416A\F0314033.D Vial: 14
Acq On : 14 Mar 2016 7:53 pm Operator: PKH-A38
Sample : 526483-005 *5* Inst : A38
Misc : SOLID Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 15 8:55 2016 Quant Results File: DR031416.RES

Quant Method : C:\HPCHEM\1\METHODS\DR031416.M (Chemstation Integrator)
Title : SW8015DRO FRONT DETECTOR A38
Last Update : Mon Mar 14 14:35:06 2016
Response via : Multiple Level Calibration
DataAcq Meth : A38FR.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031416A\F0314034.D Vial: 15
Acq On : 14 Mar 2016 8:10 pm Operator: PKH-A38
Sample : 526483-006 *5* Inst : A38
Misc : SOLID Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 15 8:50 2016 Quant Results File: DR031416.RES

Quant Method : C:\HPCHEM\1\METHODS\DR031416.M (Chemstation Integrator)
Title : SW8015DRO FRONT DETECTOR A38
Last Update : Mon Mar 14 14:35:06 2016
Response via : Initial Calibration
DataAcq Meth : A38FR.M

Volume Inj. :
Signal Phase :
Signal Info :

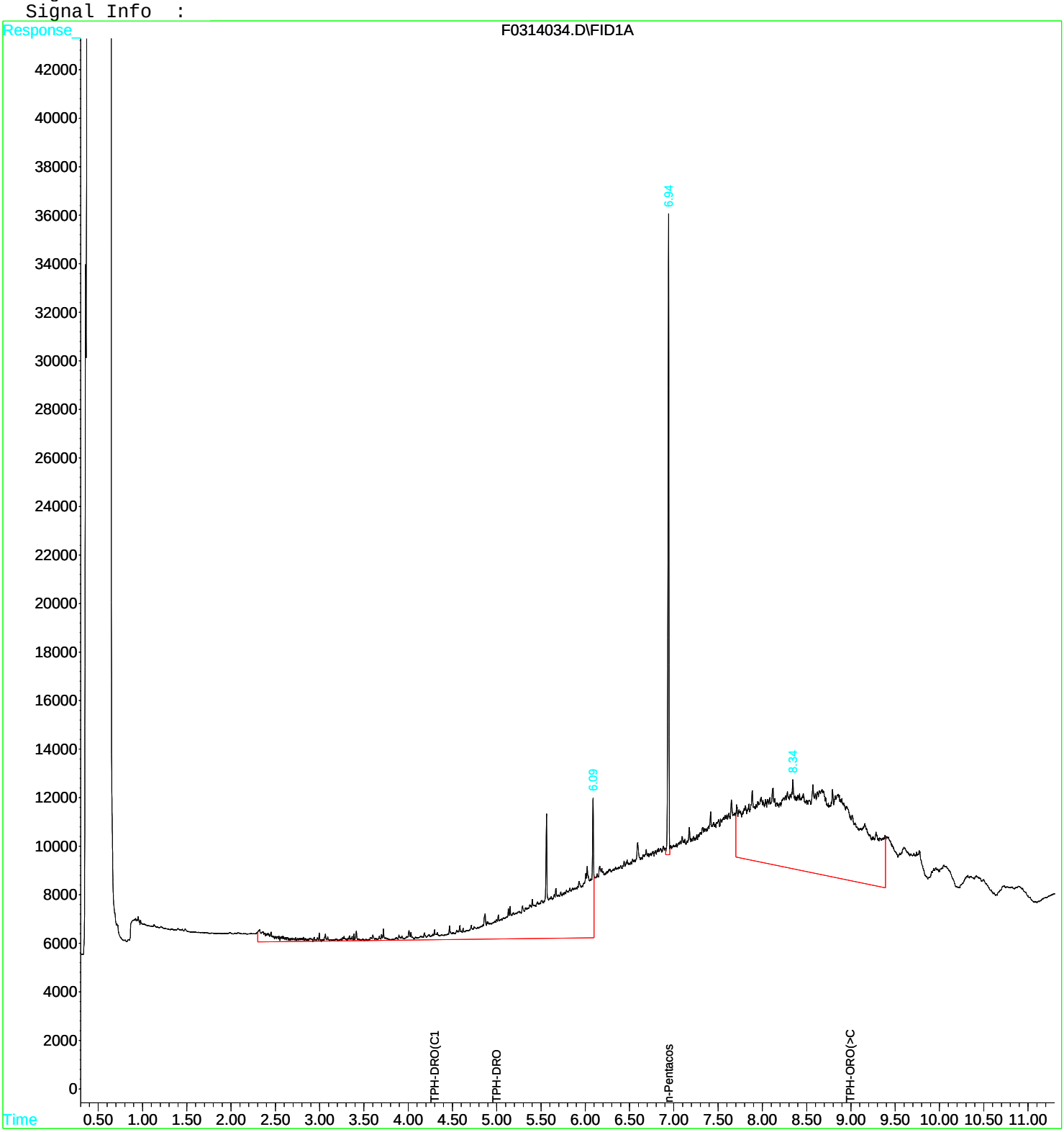
	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
4) S	n-Pentacosane	6.94	201114	9.297	PPM	m
	Target Compounds					
1) H	TPH-DRO(C10-C22)	4.30	1408638	118.064	PPM	
2) H	TPH-ORO(>C28-C35)	9.00	2665555	705.634	PPM	
3) H	TPH-DRO	5.00	5361196	366.229	ppm	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031416A\F0314034.D Vial: 15
Acq On : 14 Mar 2016 8:10 pm Operator: PKH-A38
Sample : 526483-006 *5* Inst : A38
Misc : SOLID Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 15 8:50 2016 Quant Results File: DR031416.RES

Quant Method : C:\HPCHEM\1\METHODS\DR031416.M (Chemstation Integrator)
Title : SW8015DRO FRONT DETECTOR A38
Last Update : Mon Mar 14 14:35:06 2016
Response via : Multiple Level Calibration
DataAcq Meth : A38FR.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031616\H0012421.D Vial: 2
Acq On : 16 Mar 2016 5:54 pm Operator: SAD
Sample : 526483-002-4922 *50* Inst : A25
Misc : 4.95G/5ML,03/16/16,SAD,16:30,SOIL Multiplr: 1.00
IntFile : gro.e
Quant Time: Mar 17 11:09 2016 Quant Results File: 031616S.RES

Quant Method : C:\HPCHEM\1\METHODS\031616S.M (Chemstation Integrator)
Title :
Last Update : Wed Mar 16 15:08:48 2016
Response via : Initial Calibration
DataAcq Meth : 8015.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units	
	Internal Standards					
1) I	a,a,a-Trifluorotoluene	7.98	1820892	30.000	ppb	m
	System Monitoring Compounds					
2) S	1,4-Difluorobenzene	7.13	2958739	32.181	ppb	m
Spiked Amount	30.000	Range 80 - 120	Recovery = 107.27%			
4) S	Bromofluorobenzene	13.66	2351866	33.296	ppb	m
Spiked Amount	30.000	Range 80 - 120	Recovery = 110.99%			
	Target Compounds					

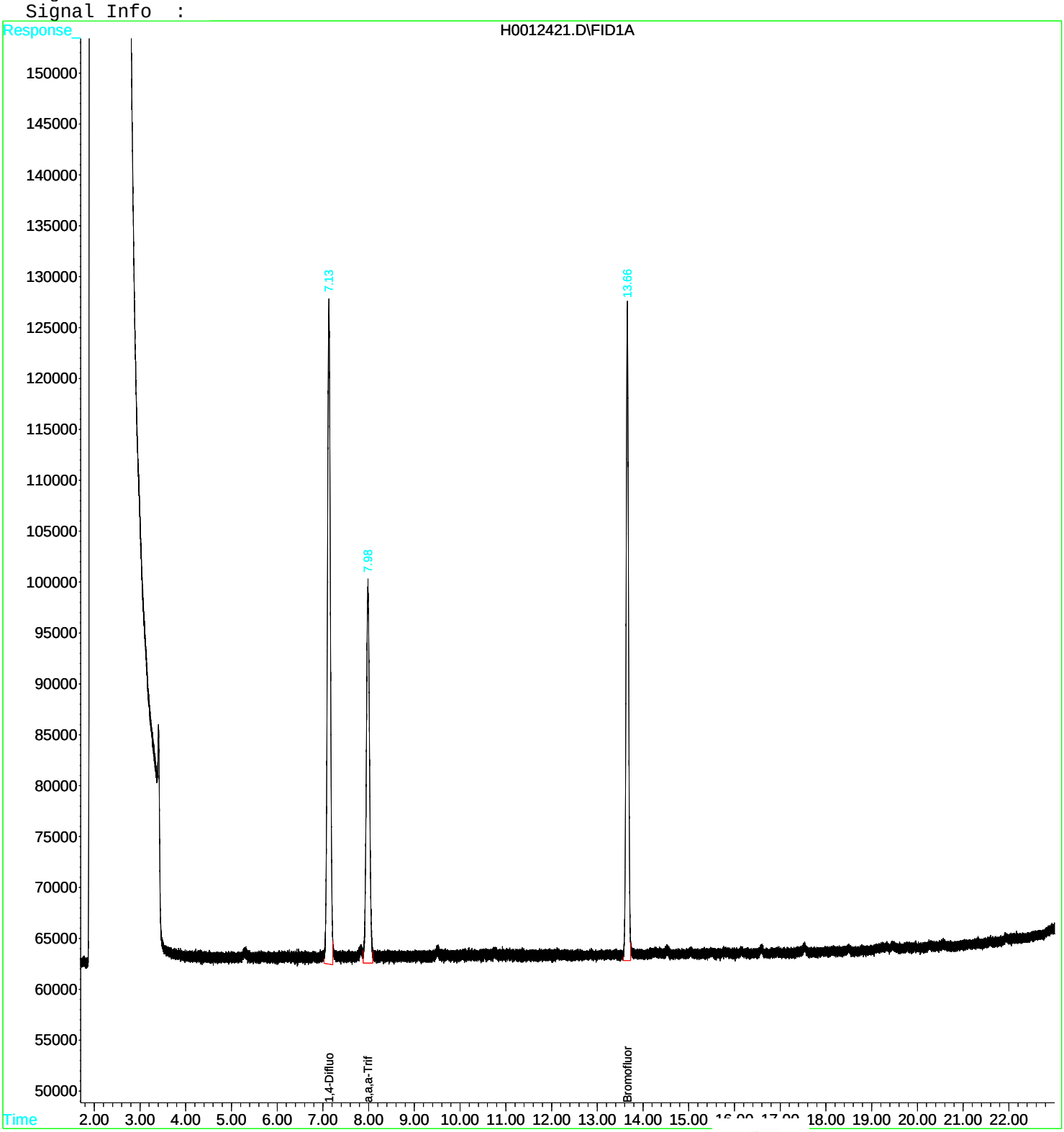
SAD

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031616\H0012421.D Vial: 2
Acq On : 16 Mar 2016 5:54 pm Operator: SAD
Sample : 526483-002-4922 *50* Inst : A25
Misc : 4.95G/5ML,03/16/16,SAD,16:30,SOIL Multiplr: 1.00
IntFile : gro.e
Quant Time: Mar 17 11:09 2016 Quant Results File: 031616S.RES

Quant Method : C:\HPCHEM\1\METHODS\031616S.M (Chemstation Integrator)
Title :
Last Update : Wed Mar 16 15:08:48 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8015.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031616\H0012429.D Vial: 10
Acq On : 16 Mar 2016 9:52 pm Operator: SAD
Sample : 526483-003-4923 *2,000* Inst : A25
Misc : 4.98G/5ML,03/16/16,SAD,16:30,SOIL Multiplr: 1.00
IntFile : gro.e
Quant Time: Mar 17 11:16 2016 Quant Results File: 031616S.RES

Quant Method : C:\HPCHEM\1\METHODS\031616S.M (Chemstation Integrator)
Title :
Last Update : Wed Mar 16 15:08:48 2016
Response via : Initial Calibration
DataAcq Meth : 8015.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units	
	Internal Standards					
1) I	a,a,a-Trifluorotoluene	7.99	1889709	30.000	ppb	m
	System Monitoring Compounds					
2) S	1,4-Difluorobenzene	7.14	2953190	30.951	ppb	m
Spiked Amount	30.000	Range 80 - 120	Recovery = 103.17%			
4) S	Bromofluorobenzene	13.66	2579765	35.192	ppb	m
Spiked Amount	30.000	Range 80 - 120	Recovery = 117.31%			
	Target Compounds					
3) H	Total Petroleum Hydrocarbo	9.28	33596894	710.536	ppb	

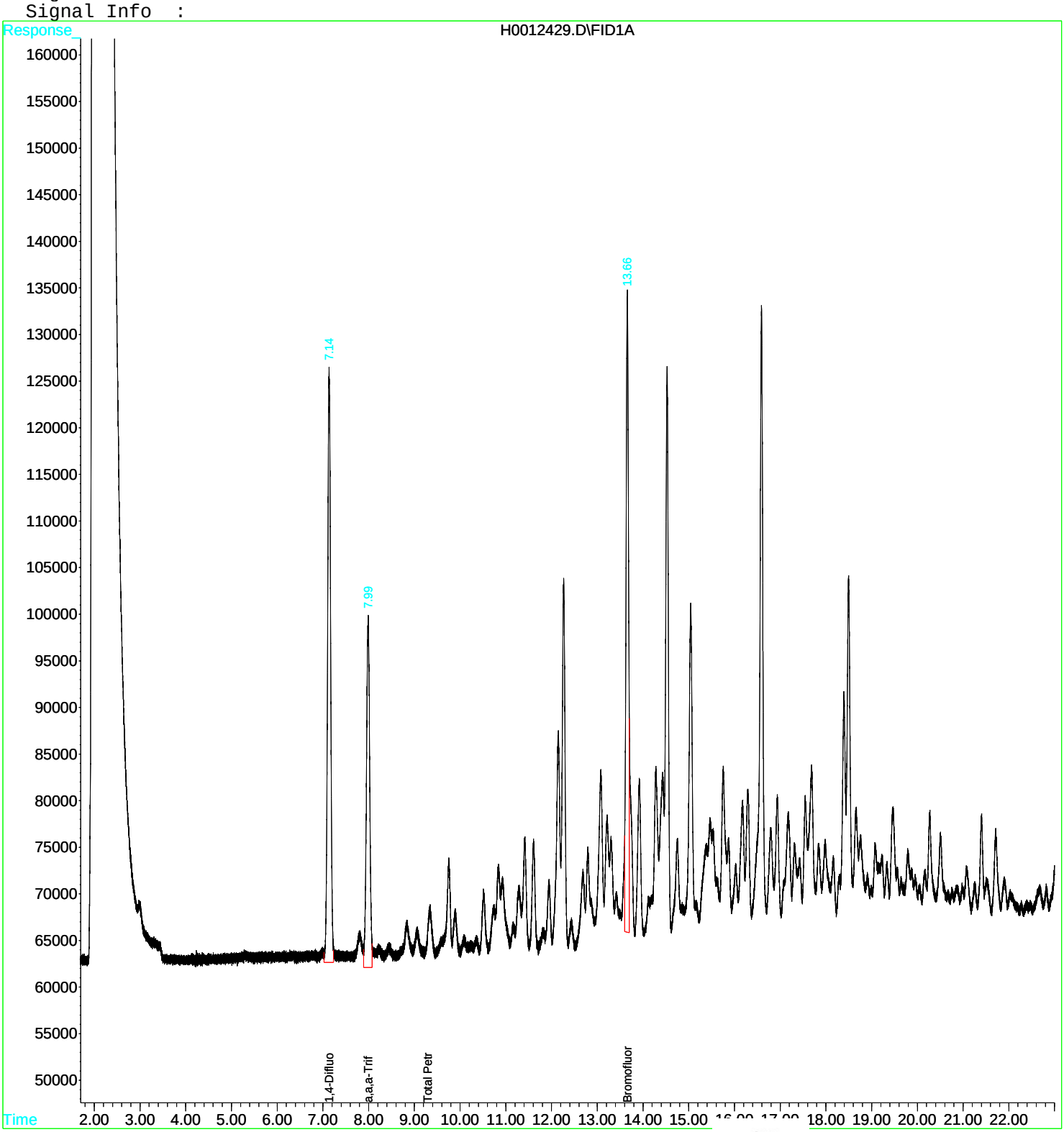
(f)=RT Delta > 1/2 Window (m)=manual SAD Final 1.000

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031616\H0012429.D Vial: 10
Acq On : 16 Mar 2016 9:52 pm Operator: SAD
Sample : 526483-003-4923 *2,000* Inst : A25
Misc : 4.98G/5ML,03/16/16,SAD,16:30,SOIL Multiplr: 1.00
IntFile : gro.e
Quant Time: Mar 17 11:16 2016 Quant Results File: 031616S.RES

Quant Method : C:\HPCHEM\1\METHODS\031616S.M (Chemstation Integrator)
Title :
Last Update : Wed Mar 16 15:08:48 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8015.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031616\H0012424.D Vial: 5
Acq On : 16 Mar 2016 7:23 pm Operator: SAD
Sample : 526483-004-4924 *50* Inst : A25
Misc : 4.99G/5ML,03/16/16,SAD,16:30,SOIL Multiplr: 1.00
IntFile : gro.e
Quant Time: Mar 17 11:11 2016 Quant Results File: 031616S.RES

Quant Method : C:\HPCHEM\1\METHODS\031616S.M (Chemstation Integrator)
Title :
Last Update : Wed Mar 16 15:08:48 2016
Response via : Initial Calibration
DataAcq Meth : 8015.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units	
	Internal Standards					
1) I	a,a,a-Trifluorotoluene	7.99	1898927	30.000	ppb	m
	System Monitoring Compounds					
2) S	1,4-Difluorobenzene	7.13	3051572	31.827	ppb	m
Spiked Amount	30.000	Range 80 - 120	Recovery = 106.09%			
4) S	Bromofluorobenzene	13.65	2416877	32.810	ppb	m
Spiked Amount	30.000	Range 80 - 120	Recovery = 109.37%			
	Target Compounds					

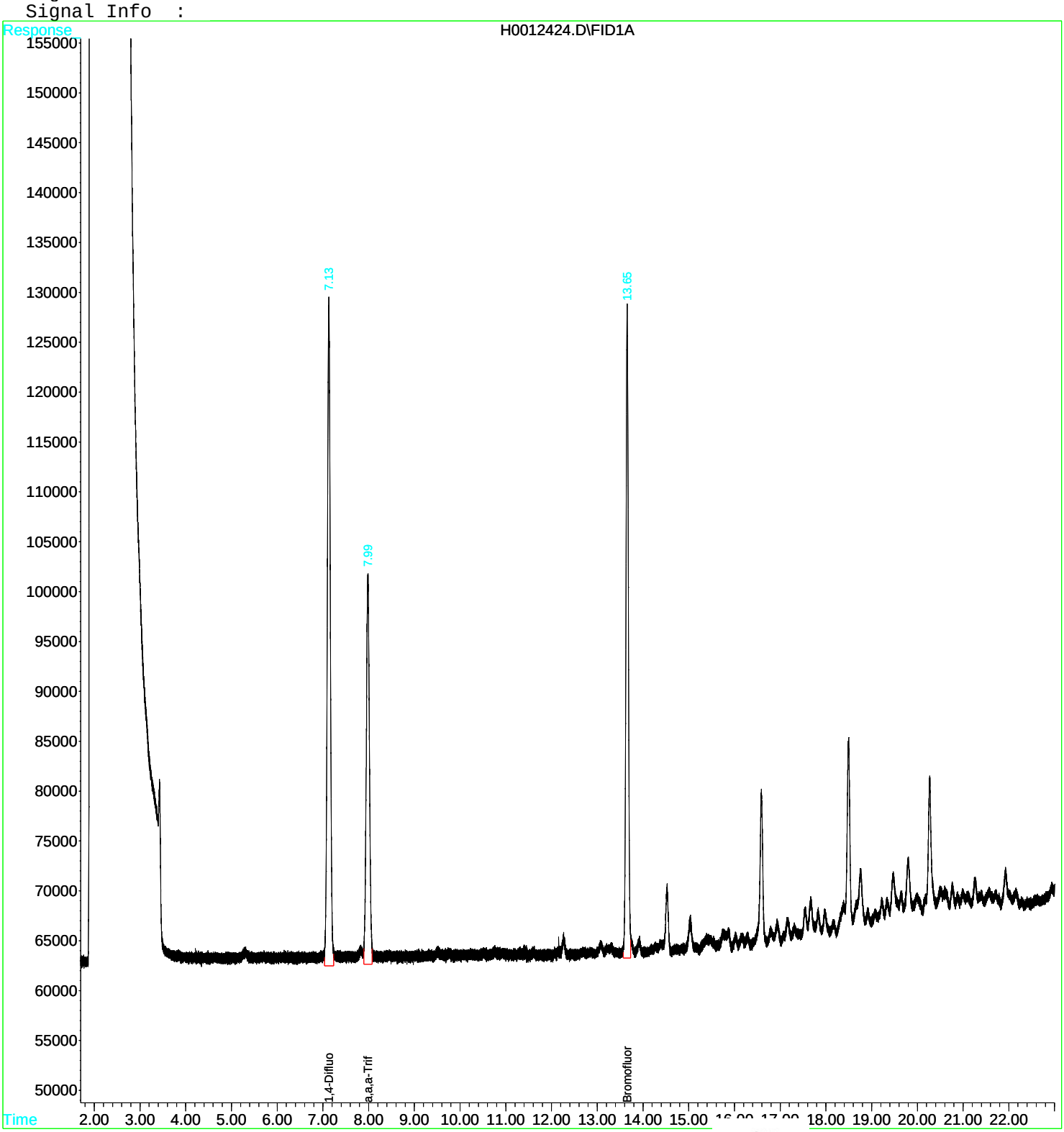
(f)=RT Delta > 1/2 Window (m)=manual SAD Final 1.000

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031616\H0012424.D Vial: 5
Acq On : 16 Mar 2016 7:23 pm Operator: SAD
Sample : 526483-004-4924 *50* Inst : A25
Misc : 4.99G/5ML,03/16/16,SAD,16:30,SOIL Multiplr: 1.00
IntFile : gro.e
Quant Time: Mar 17 11:11 2016 Quant Results File: 031616S.RES

Quant Method : C:\HPCHEM\1\METHODS\031616S.M (Chemstation Integrator)
Title :
Last Update : Wed Mar 16 15:08:48 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8015.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031616\H0012422.D Vial: 3
Acq On : 16 Mar 2016 6:24 pm Operator: SAD
Sample : 526483-005-4925 *50* Inst : A25
Misc : 5.01G/5ML,03/16/16,SAD,16:30,SOIL Multiplr: 1.00
IntFile : gro.e
Quant Time: Mar 17 11:09 2016 Quant Results File: 031616S.RES

Quant Method : C:\HPCHEM\1\METHODS\031616S.M (Chemstation Integrator)
Title :
Last Update : Wed Mar 16 15:08:48 2016
Response via : Initial Calibration
DataAcq Meth : 8015.M

Volume Inj. :
Signal Phase :
Signal Info :

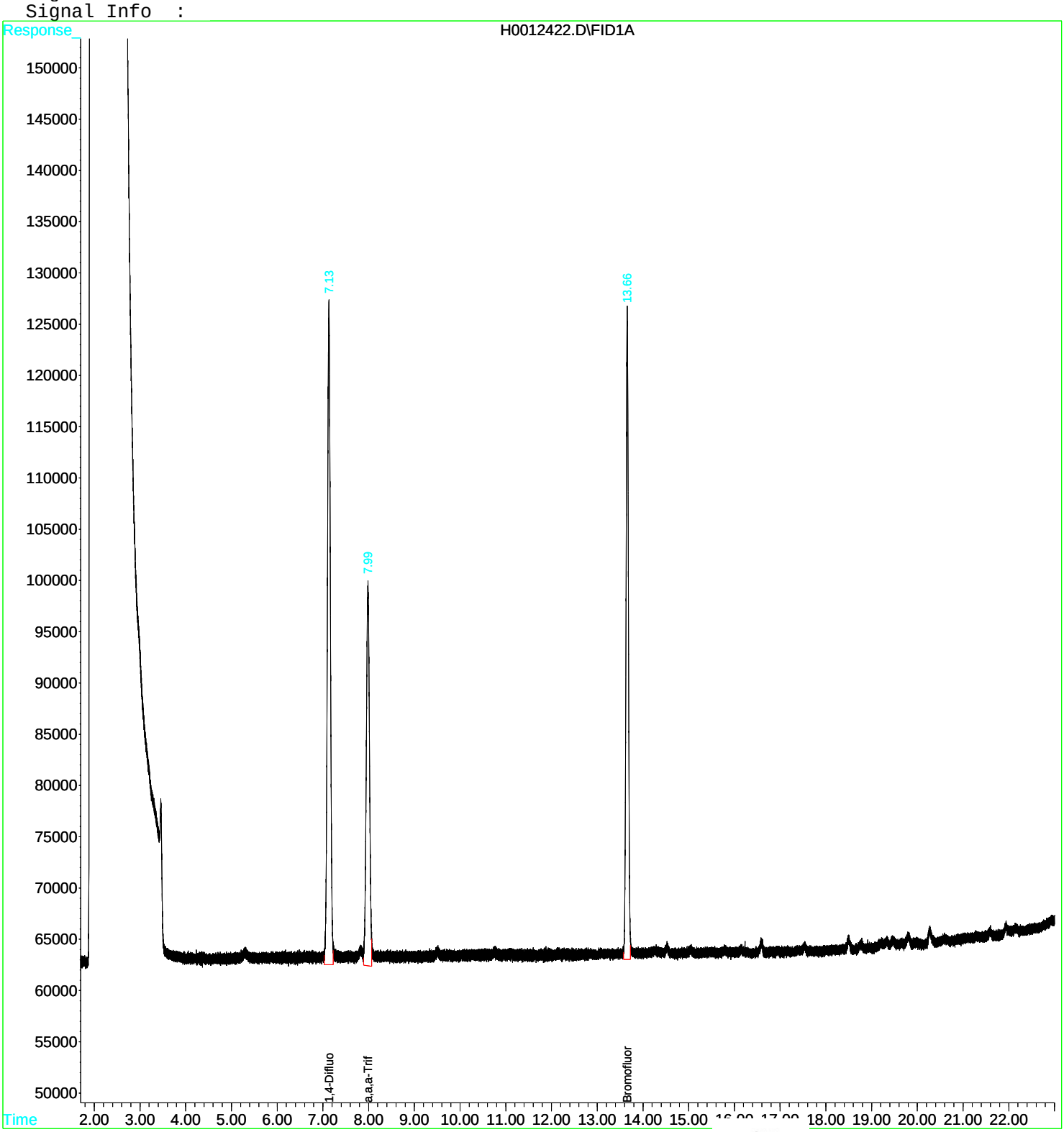
Compound	R.T.	Response	Conc	Units	
Internal Standards					
1) I a,a,a-Trifluorotoluene	7.99	1820599	30.000	ppb	m
System Monitoring Compounds					
2) S 1,4-Difluorobenzene	7.13	2948805	32.078	ppb	m
Spiked Amount 30.000	Range 80 - 120	Recovery = 106.93%			
4) S Bromofluorobenzene	13.66	2310509	32.715	ppb	m
Spiked Amount 30.000	Range 80 - 120	Recovery = 109.05%			
Target Compounds					

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031616\H0012422.D Vial: 3
Acq On : 16 Mar 2016 6:24 pm Operator: SAD
Sample : 526483-005-4925 *50* Inst : A25
Misc : 5.01G/5ML,03/16/16,SAD,16:30,SOIL Multiplr: 1.00
IntFile : gro.e
Quant Time: Mar 17 11:09 2016 Quant Results File: 031616S.RES

Quant Method : C:\HPCHEM\1\METHODS\031616S.M (Chemstation Integrator)
Title :
Last Update : Wed Mar 16 15:08:48 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8015.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031616\H0012423.D Vial: 4
Acq On : 16 Mar 2016 6:53 pm Operator: SAD
Sample : 526483-006-4926 *50* Inst : A25
Misc : 5.05G/5ML,03/16/16,SAD,16:30,SOIL Multiplr: 1.00
IntFile : gro.e
Quant Time: Mar 17 11:10 2016 Quant Results File: 031616S.RES

Quant Method : C:\HPCHEM\1\METHODS\031616S.M (Chemstation Integrator)
Title :
Last Update : Wed Mar 16 15:08:48 2016
Response via : Initial Calibration
DataAcq Meth : 8015.M

Volume Inj. :
Signal Phase :
Signal Info :

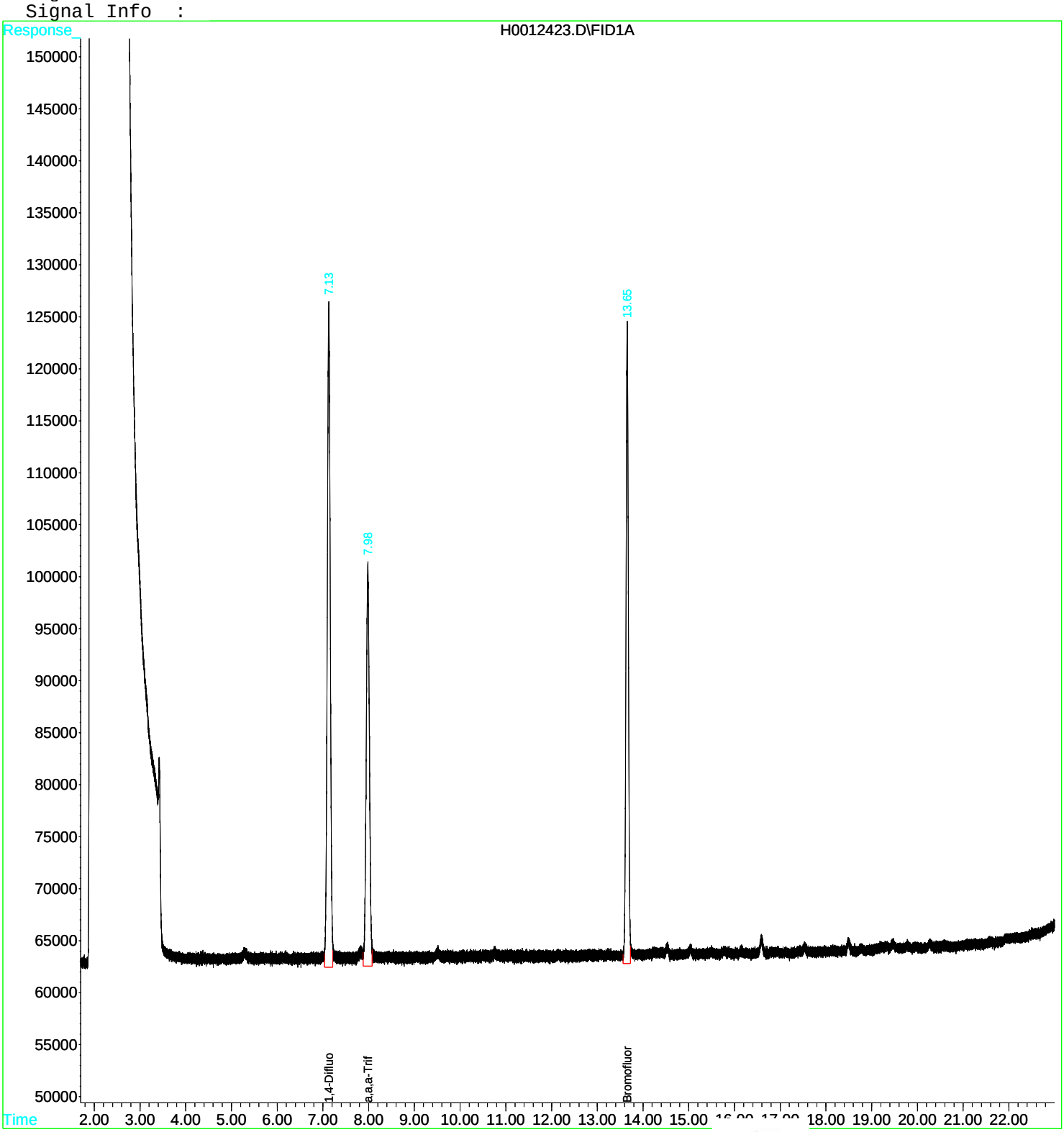
	Compound	R.T.	Response	Conc	Units	
	Internal Standards					
1) I	a,a,a-Trifluorotoluene	7.98	1871670	30.000	ppb	m
	System Monitoring Compounds					
2) S	1,4-Difluorobenzene	7.13	2902514	30.713	ppb	m
Spiked Amount	30.000	Range 80 - 120	Recovery = 102.38%			
4) S	Bromofluorobenzene	13.65	2255158	31.060	ppb	m
Spiked Amount	30.000	Range 80 - 120	Recovery = 103.53%			
	Target Compounds					

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031616\H0012423.D Vial: 4
Acq On : 16 Mar 2016 6:53 pm Operator: SAD
Sample : 526483-006-4926 *50* Inst : A25
Misc : 5.05G/5ML,03/16/16,SAD,16:30,SOIL Multiplr: 1.00
IntFile : gro.e
Quant Time: Mar 17 11:10 2016 Quant Results File: 031616S.RES

Quant Method : C:\HPCHEM\1\METHODS\031616S.M (Chemstation Integrator)
Title :
Last Update : Wed Mar 16 15:08:48 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8015.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\030916\C052050.D Vial: 19
Acq On : 9 Mar 2016 3:24 pm Operator: JTR
Sample : 526483-002-4922 *1* Inst : A140
Misc : 5.01G/5ML,03/09/16,JTR,15:10,SOIL Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 10 8:48 2016 Quant Results File: 021916S.RES

Quant Method : C:\HPCHEM\1...\021916S.M (RTE Integrator)
Title : 8260
Last Update : Fri Feb 19 13:34:43 2016
Response via : Initial Calibration
DataAcq Meth : BTEX

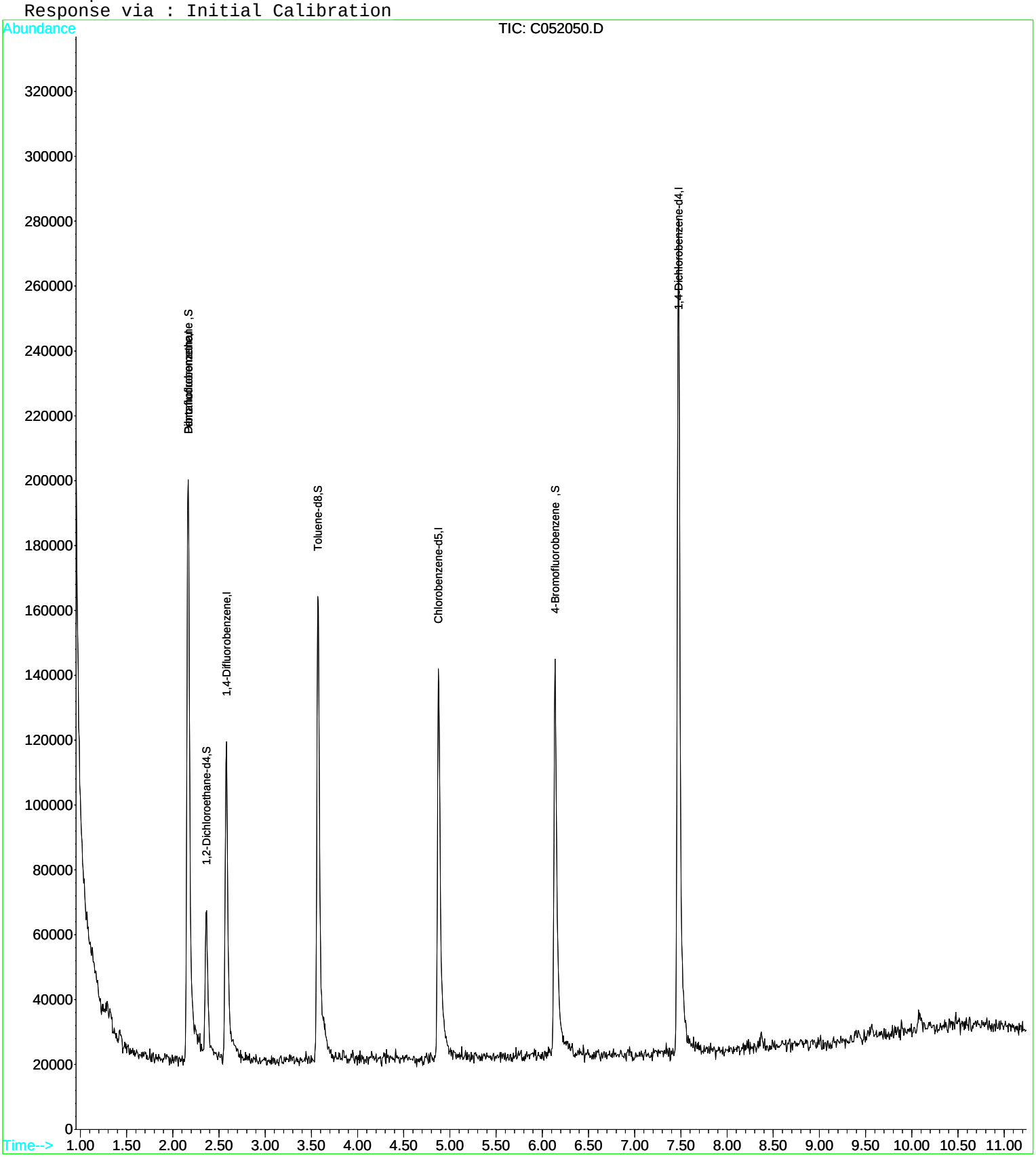
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	2.17	168	79204	50.00	ppb	0.02
5) 1,4-Difluorobenzene	2.58	114	92936	50.00	ppb	0.03
7) Chlorobenzene-d5	4.87	117	95287	50.00	ppb	0.03
13) 1,4-Dichlorobenzene-d4	7.47	152	93351	50.00	ppb	0.03
System Monitoring Compounds						
3) 1,2-Dichloroethane-d4	2.36	102	7458	43.53	ppb	0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 87.06%			
4) Dibromofluoromethane	2.17	113	54079	49.50	ppb	0.02
Spiked Amount 50.000	Range 74 - 126		Recovery = 99.00%			
8) Toluene-d8	3.57	98	115719	44.07	ppb	0.03
Spiked Amount 50.000	Range 73 - 132		Recovery = 88.14%			
14) 4-Bromofluorobenzene	6.14	95	54487	44.18	ppb	0.03
Spiked Amount 50.000	Range 58 - 152		Recovery = 88.36%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\2016\030916\C052050.D Vial: 19
Acq On : 9 Mar 2016 3:24 pm Operator: JTR
Sample : 526483-002-4922 *1* Inst : A140
Misc : 5.01G/5ML,03/09/16,JTR,15:10,SOIL Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 10 8:48 2016 Quant Results File: 021916S.RES

Method : C:\HPCHEM\1\METHODS\2012\021916S.M (RTE Integrator)
Title : 8260
Last Update : Fri Feb 19 13:34:43 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\030916\C052060.D Vial: 29
Acq On : 9 Mar 2016 6:08 pm Operator: JTR
Sample : 526483-003-4923 *25* Inst : A140
Misc : 5.05G/5ML,03/09/16,JTR,16:54,SOIL Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 10 8:53 2016 Quant Results File: 021916S.RES

Quant Method : C:\HPCHEM\1...\021916S.M (RTE Integrator)
Title : 8260
Last Update : Fri Feb 19 13:34:43 2016
Response via : Initial Calibration
DataAcq Meth : BTEX

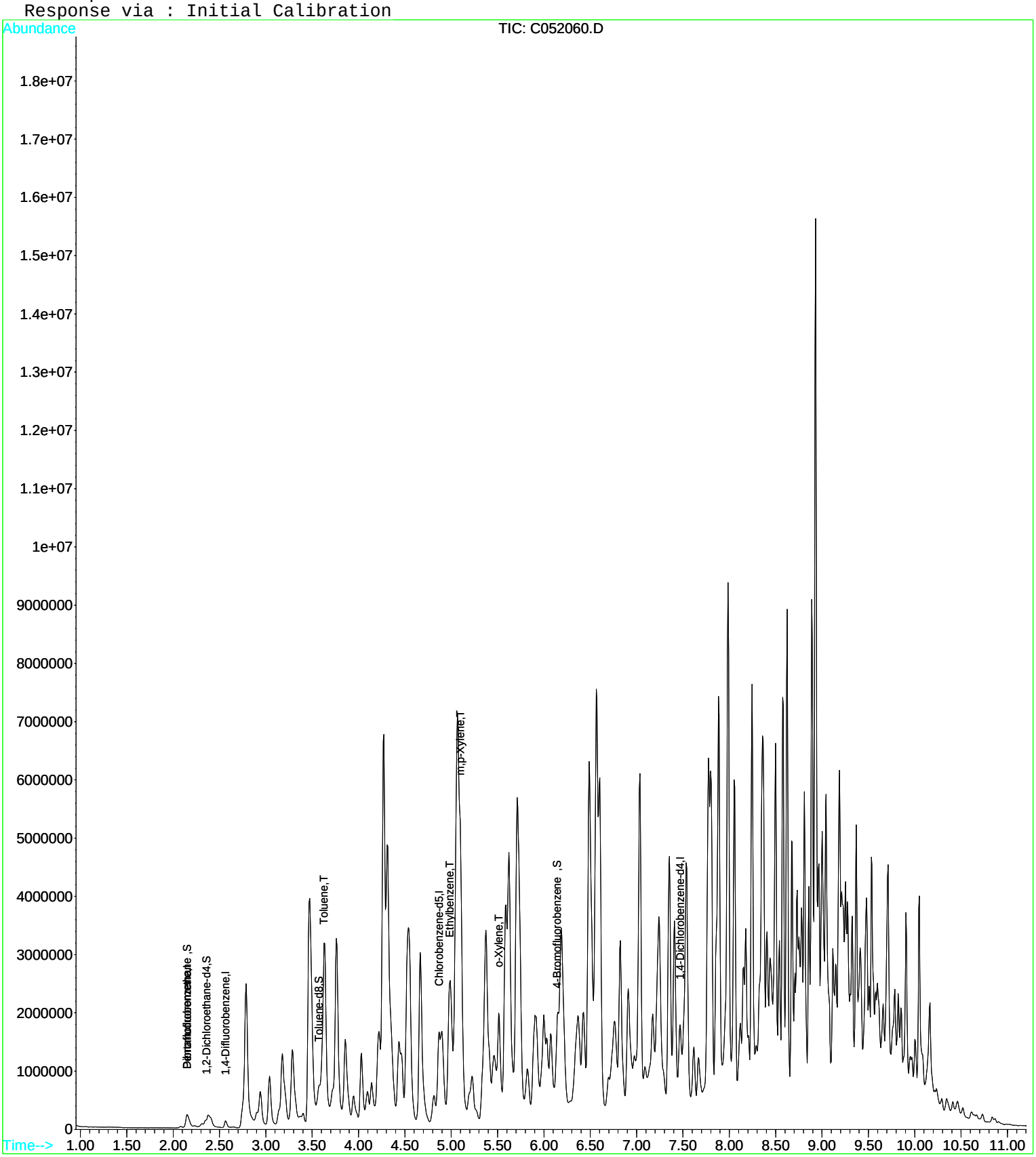
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	2.15	168	81300	50.00	ppb	0.00
5) 1,4-Difluorobenzene	2.56	114	110540	50.00	ppb	0.00
7) Chlorobenzene-d5	4.87	117	154517	50.00	ppb	0.02
13) 1,4-Dichlorobenzene-d4	7.47	152	221153	50.00	ppb	0.02
System Monitoring Compounds						
3) 1,2-Dichloroethane-d4	2.35	102	7074	40.23	ppb	0.01
Spiked Amount 50.000	Range 80 - 120		Recovery = 80.46%			
4) Dibromofluoromethane	2.15	113	45975	40.99	ppb	0.00
Spiked Amount 50.000	Range 74 - 126		Recovery = 81.98%			
8) Toluene-d8	3.56	98	179472m	42.15	ppb	0.01
Spiked Amount 50.000	Range 73 - 132		Recovery = 84.30%			
14) 4-Bromofluorobenzene	6.13	95	107780	36.89	ppb	0.02
Spiked Amount 50.000	Range 58 - 152		Recovery = 73.78%			
Target Compounds						Qvalue
9) Toluene	3.62	91	17054	3.38	ppb	# 27
10) Ethylbenzene	4.98	91	580788	79.68	ppb	99
11) m,p-Xylene	5.10	106	732039	281.73	ppb	92
12) o-Xylene	5.52	106	531124	129.51	ppb	94

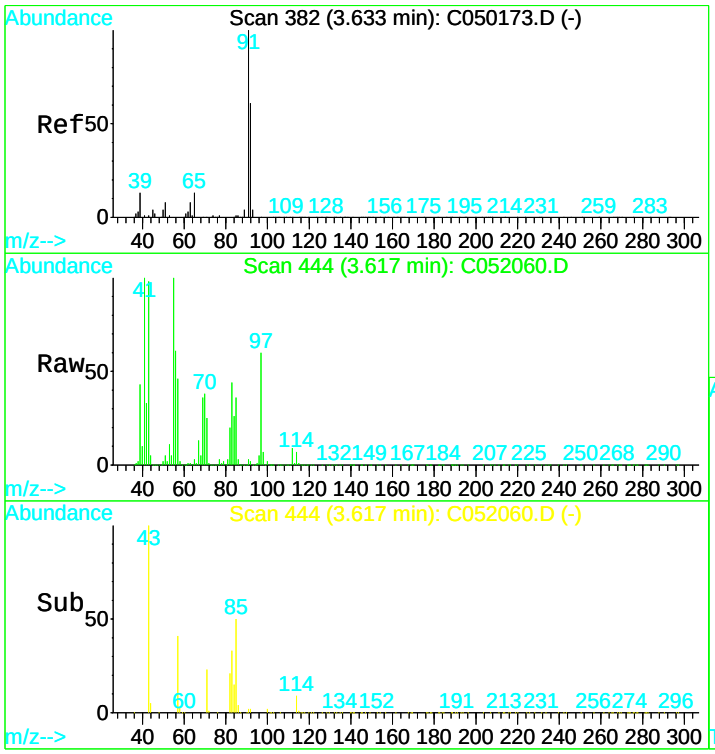
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\2016\030916\C052060.D Vial: 29
Acq On : 9 Mar 2016 6:08 pm Operator: JTR
Sample : 526483-003-4923 *25* Inst : A140
Misc : 5.05G/5ML,03/09/16,JTR,16:54,SOIL Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 10 8:53 2016 Quant Results File: 021916S.RES

Method : C:\HPCHEM\1\METHODS\2012\021916S.M (RTE Integrator)
Title : 8260
Last Update : Fri Feb 19 13:34:43 2016
Response via : Initial Calibration

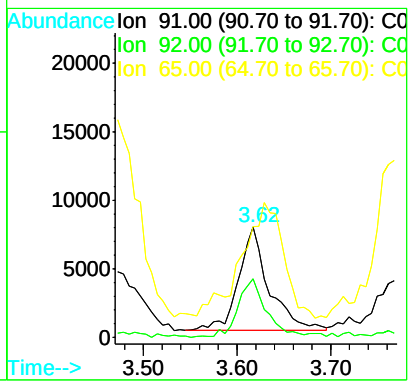


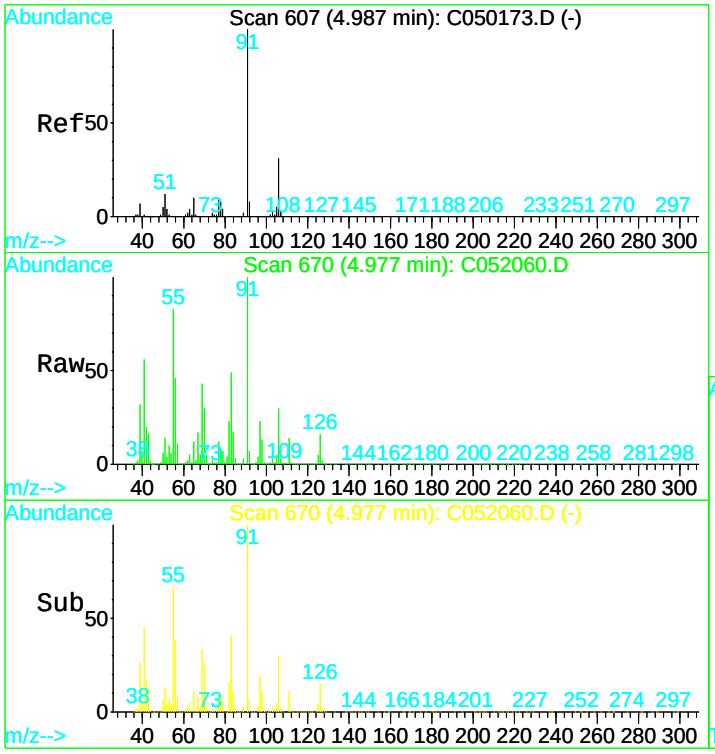


#9
Toluene
Concen: 3.38 ppb
RT: 3.62 min Scan# 444
Delta R.T. 0.01 min
Lab File: C052060.D
Acq: 9 Mar 2016 6:08 pm

Tgt Ion: 91 Resp: 17054

Ion	Ratio	Lower	Upper
91	100		
92	52.7	40.4	80.4
65	154.3	0.0	33.8#

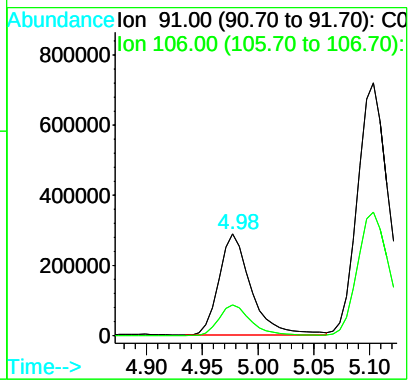


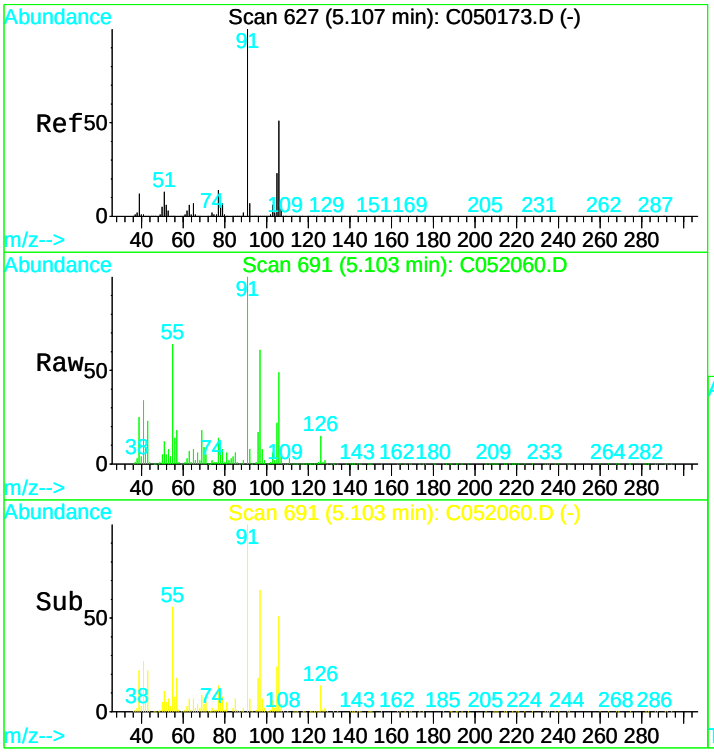


#10
Ethylbenzene
Concen: 79.68 ppb
RT: 4.98 min Scan# 670
Delta R.T. 0.02 min
Lab File: C052060.D
Acq: 9 Mar 2016 6:08 pm

Tgt Ion: 91 Resp: 580788

Ion	Ratio	Lower	Upper
91	100		
106	30.3	0.0	129.7

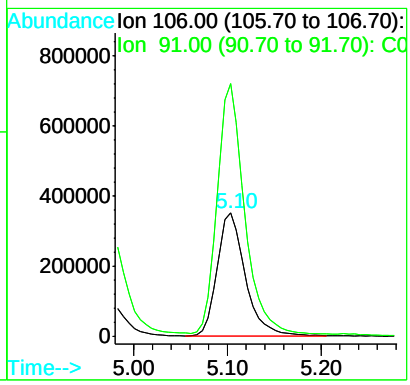


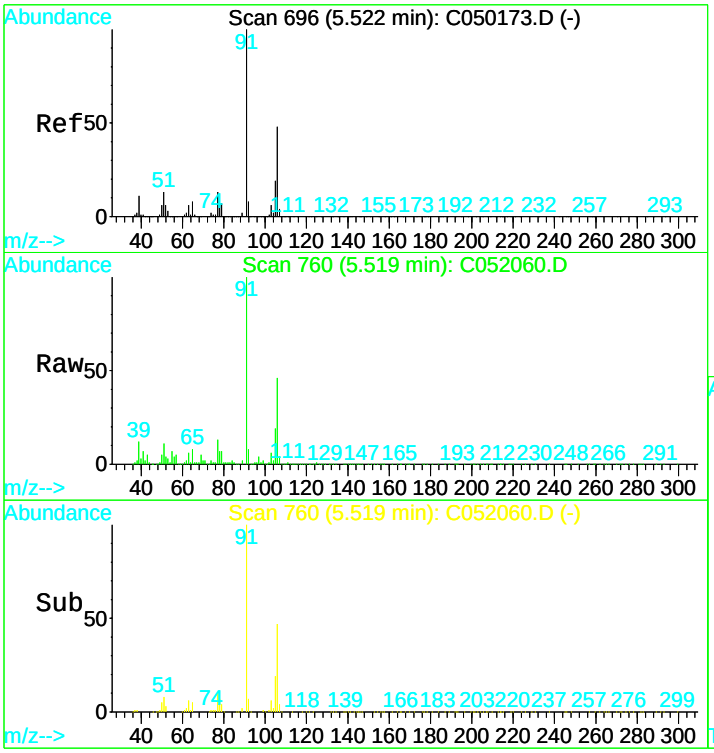


#11
m,p-Xylene
Concen: 281.73 ppb
RT: 5.10 min Scan# 691
Delta R.T. 0.02 min
Lab File: C052060.D
Acq: 9 Mar 2016 6:08 pm

Tgt Ion:106 Resp: 732039

Ion	Ratio	Lower	Upper
106	100		
91	196.7	188.8	228.8

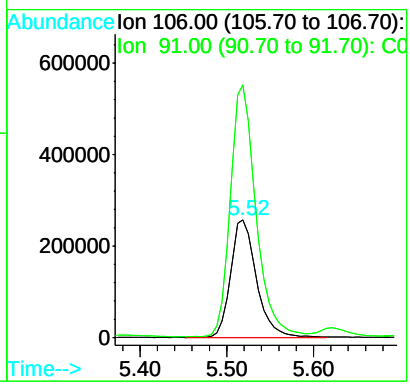




#12
o-Xylene
Concen: 129.51 ppb
RT: 5.52 min Scan# 760
Delta R.T. 0.03 min
Lab File: C052060.D
Acq: 9 Mar 2016 6:08 pm

Tgt Ion:106 Resp: 531124

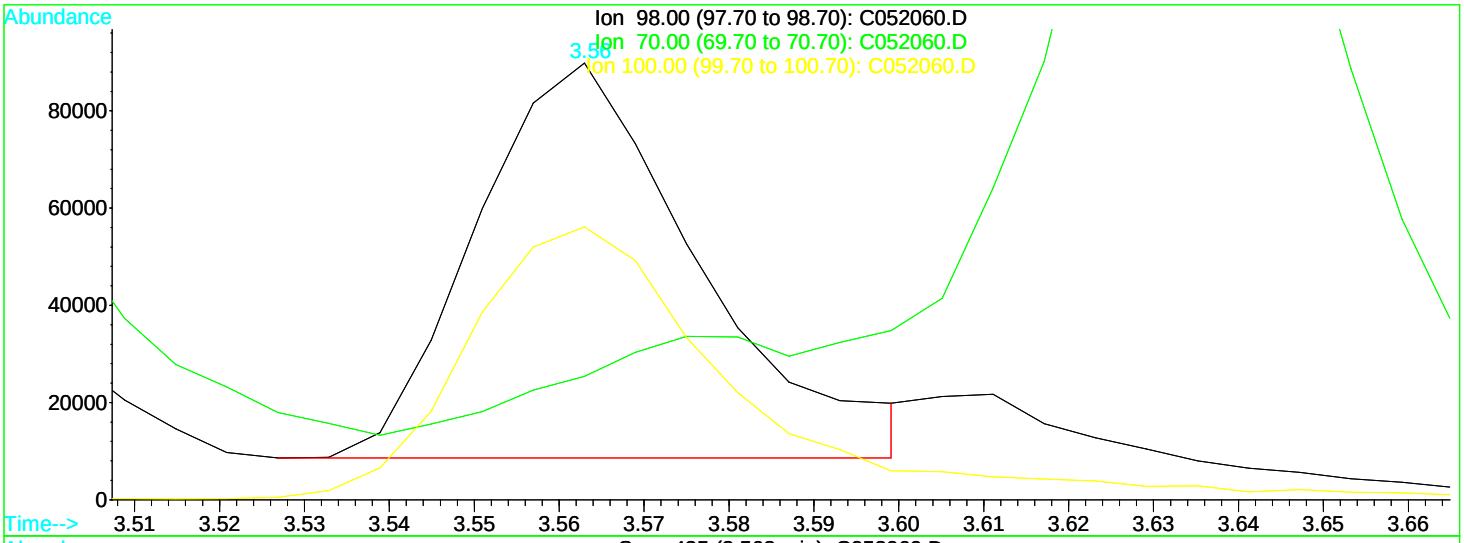
Ion	Ratio	Lower	Upper
106	100		
91	213.0	172.4	272.4

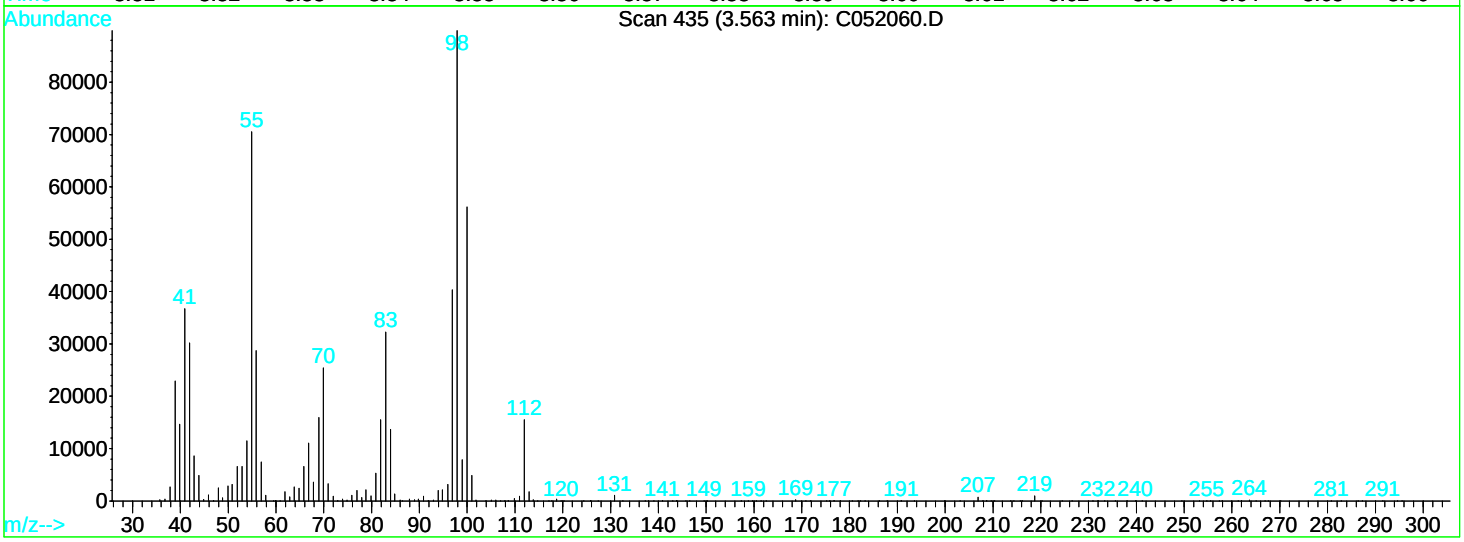


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\2016\030916\C052060.D Vial: 29
Acq On : 9 Mar 2016 6:08 pm Operator: JTR
Sample : 526483-003-4923 *25* Inst : A140
Misc : 5.05G/5ML,03/09/16,JTR,16:54,SOIL Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 10 8:53 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\2012\021916S.M (RTE Integrator)
Title : 8260
Last Update : Fri Feb 19 13:34:43 2016
Response via : Multiple Level Calibration





TIC: C052060.D

(8) Toluene-d8 (S)

3.56min 34.69ppb

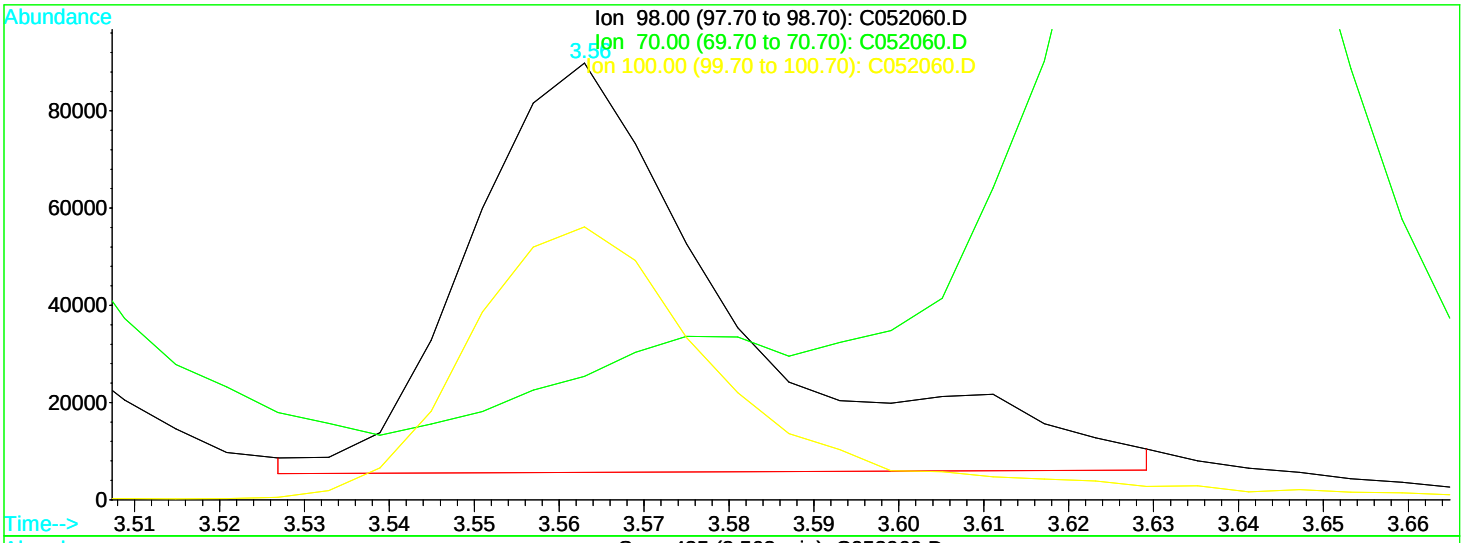
response 147730

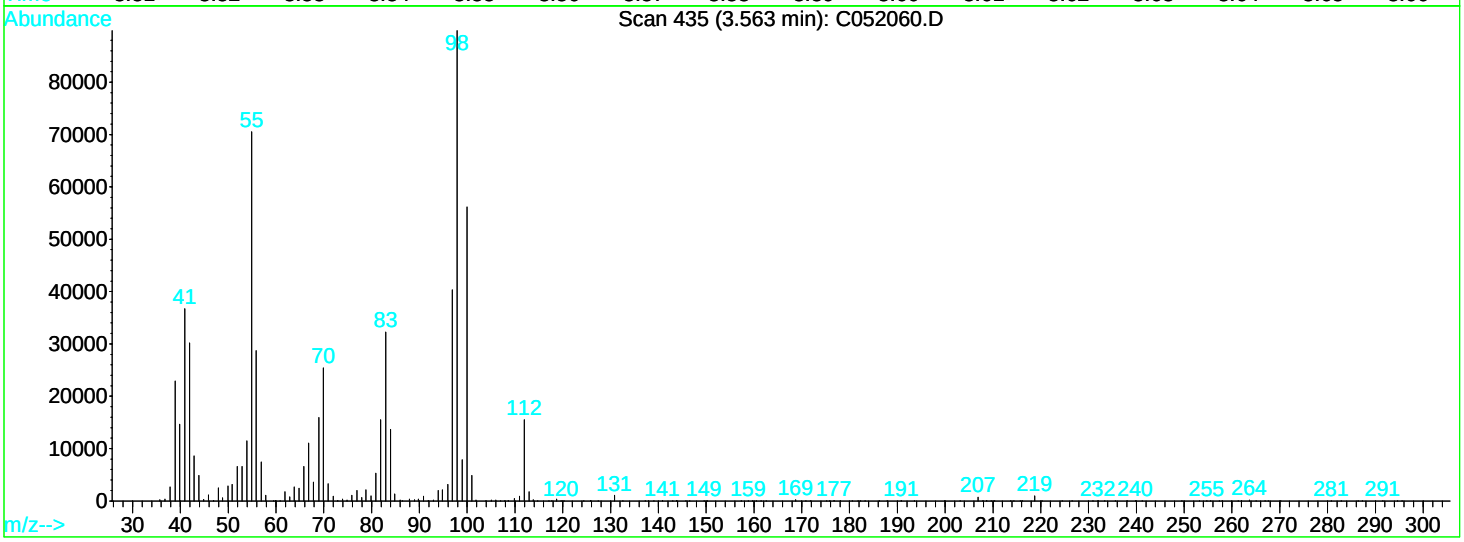
Ion	Exp%	Act%
98.00	100	100
70.00	14.10	25.02
100.00	70.50	82.07
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\2016\030916\C052060.D Vial: 29
Acq On : 9 Mar 2016 6:08 pm Operator: JTR
Sample : 526483-003-4923 *25* Inst : A140
Misc : 5.05G/5ML,03/09/16,JTR,16:54,SOIL Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 10 8:53 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\2012\021916S.M (RTE Integrator)
Title : 8260
Last Update : Fri Feb 19 13:34:43 2016
Response via : Multiple Level Calibration





TIC: C052060.D

(8) Toluene-d8 (S)

3.56min 42.15ppb m

response 179472

Ion	Exp%	Act%
98.00	100	100
70.00	14.10	20.60
100.00	70.50	67.56
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\030916\C052051.D Vial: 20
Acq On : 9 Mar 2016 3:43 pm Operator: JTR
Sample : 526483-004-4924 *1* Inst : A140
Misc : 5.05G/5ML,03/09/16,JTR,15:11,SOIL Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 10 8:49 2016 Quant Results File: 021916S.RES

Quant Method : C:\HPCHEM\1...\021916S.M (RTE Integrator)
Title : 8260
Last Update : Fri Feb 19 13:34:43 2016
Response via : Initial Calibration
DataAcq Meth : BTEX

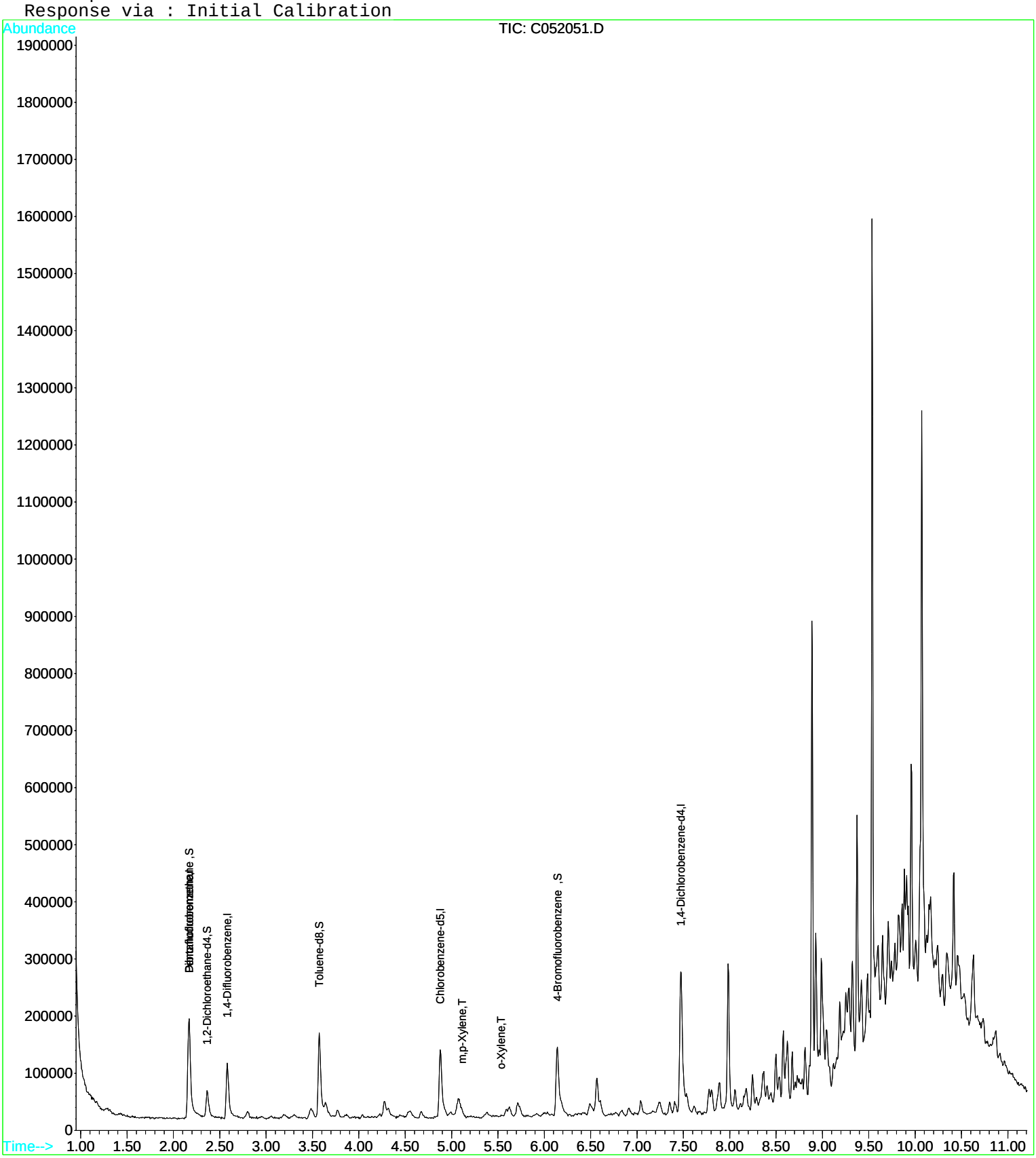
Internal Standards		R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene		2.17	168	77876	50.00	ppb	0.02
5) 1,4-Difluorobenzene		2.58	114	91659	50.00	ppb	0.02
7) Chlorobenzene-d5		4.88	117	89197	50.00	ppb	0.03
13) 1,4-Dichlorobenzene-d4		7.47	152	89772	50.00	ppb	0.02
System Monitoring Compounds							
3) 1,2-Dichloroethane-d4		2.36	102	7046m	41.83	ppb	0.02
Spiked Amount	50.000	Range	80 - 120	Recovery	=	83.66%	
4) Dibromofluoromethane		2.16	113	51945	48.35	ppb	0.02
Spiked Amount	50.000	Range	74 - 126	Recovery	=	96.70%	
8) Toluene-d8		3.57	98	116620	47.44	ppb	0.02
Spiked Amount	50.000	Range	73 - 132	Recovery	=	94.88%	
14) 4-Bromofluorobenzene		6.14	95	51750	43.63	ppb	0.03
Spiked Amount	50.000	Range	58 - 152	Recovery	=	87.26%	
Target Compounds							Qvalue
11) m,p-Xylene		5.12	106	1210	0.81	ppb	97
12) o-Xylene		5.54	106	1057	0.45	ppb	94

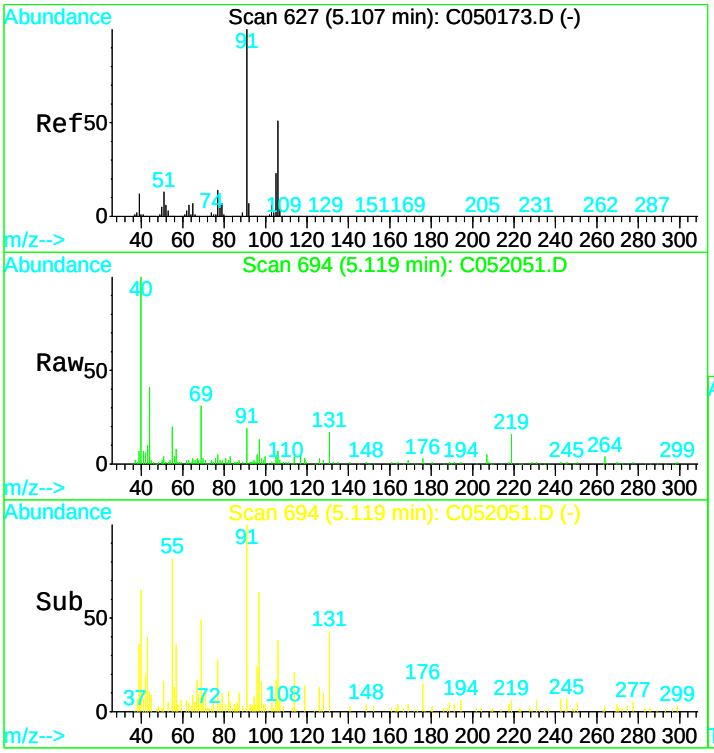
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\2016\030916\C052051.D Vial: 20
Acq On : 9 Mar 2016 3:43 pm Operator: JTR
Sample : 526483-004-4924 *1* Inst : A140
Misc : 5.05G/5ML,03/09/16,JTR,15:11,SOIL Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 10 8:49 2016 Quant Results File: 021916S.RES

Method : C:\HPCHEM\1\METHODS\2012\021916S.M (RTE Integrator)
Title : 8260
Last Update : Fri Feb 19 13:34:43 2016
Response via : Initial Calibration

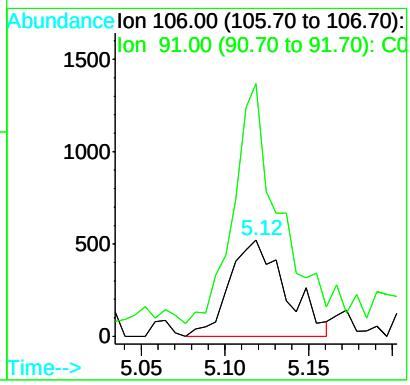


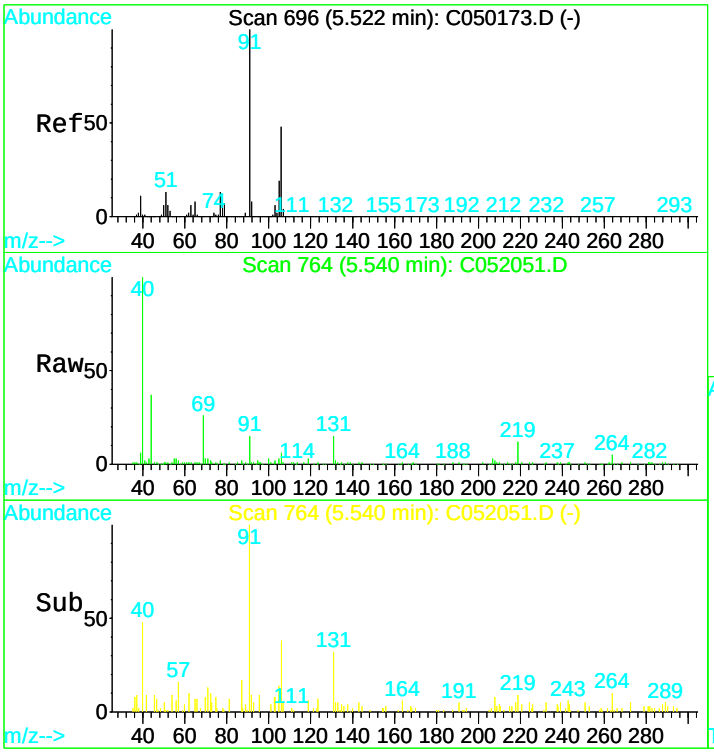


#11
m,p-Xylene
Concen: 0.81 ppb
RT: 5.12 min Scan# 694
Delta R.T. 0.04 min
Lab File: C052051.D
Acq: 9 Mar 2016 3:43 pm

Tgt Ion:106 Resp: 1210

Ion	Ratio	Lower	Upper
106	100		
91	213.2	188.8	228.8

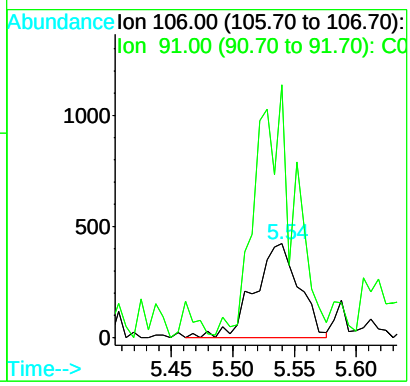




#12
o-Xylene
Concen: 0.45 ppb
RT: 5.54 min Scan# 764
Delta R.T. 0.05 min
Lab File: C052051.D
Acq: 9 Mar 2016 3:43 pm

Tgt Ion:106 Resp: 1057

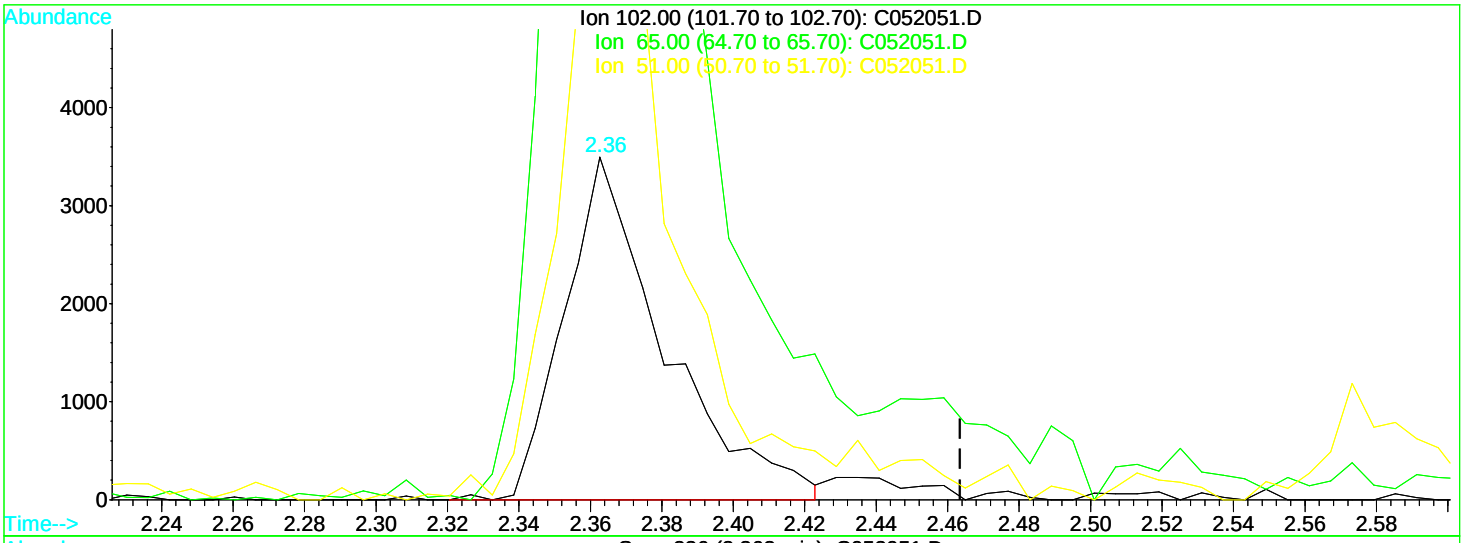
Ion	Ratio	Lower	Upper
106	100		
91	232.0	172.4	272.4

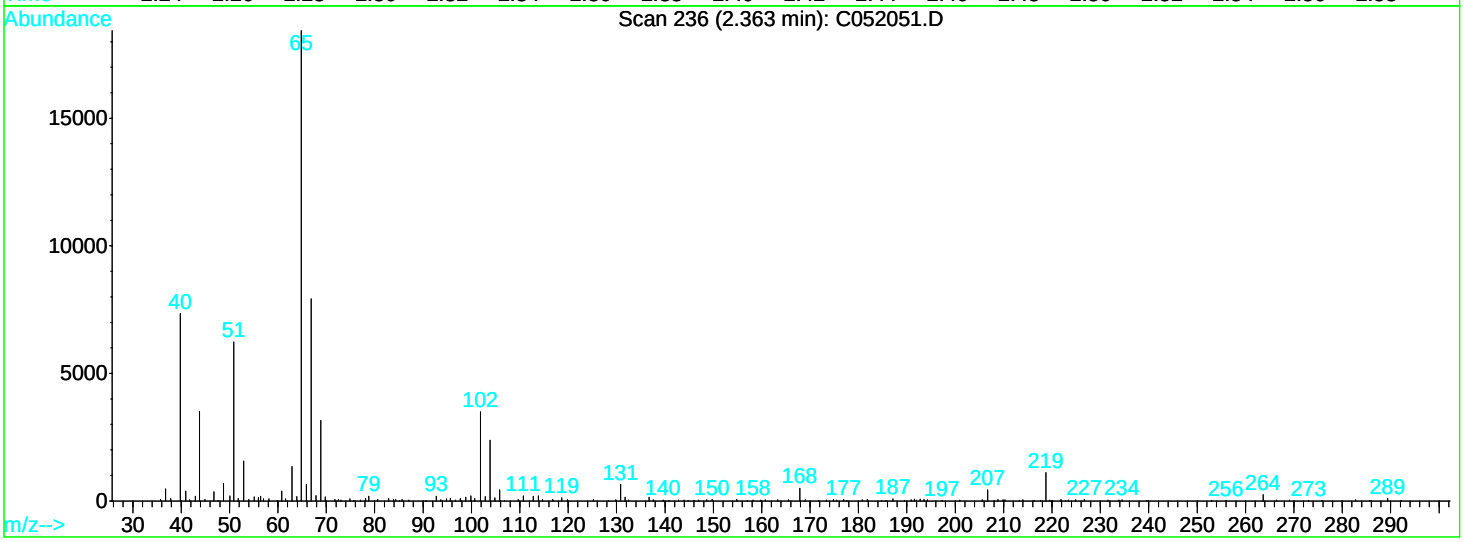


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\2016\030916\C052051.D Vial: 20
Acq On : 9 Mar 2016 3:43 pm Operator: JTR
Sample : 526483-004-4924 *1* Inst : A140
Misc : 5.05G/5ML,03/09/16,JTR,15:11,SOIL Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 10 8:49 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\2012\021916S.M (RTE Integrator)
Title : 8260
Last Update : Fri Feb 19 13:34:43 2016
Response via : Multiple Level Calibration





TIC: C052051.D

(3) 1,2-Dichloroethane-d4 (S)

2.36min 40.39ppb

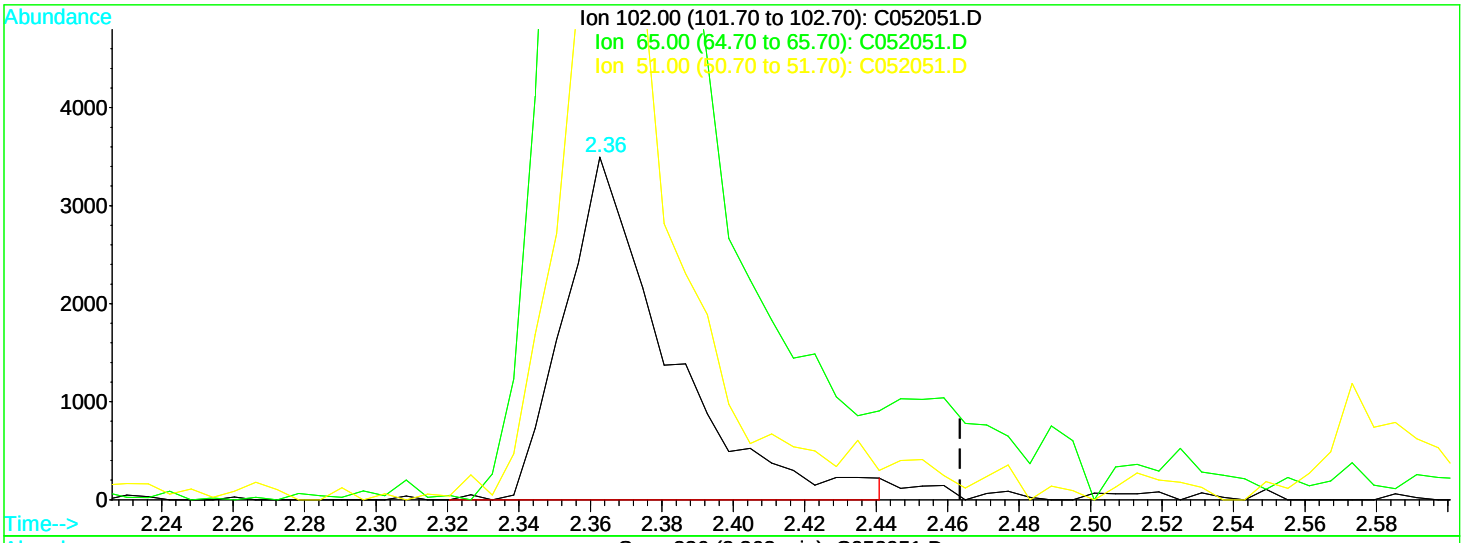
response 6803

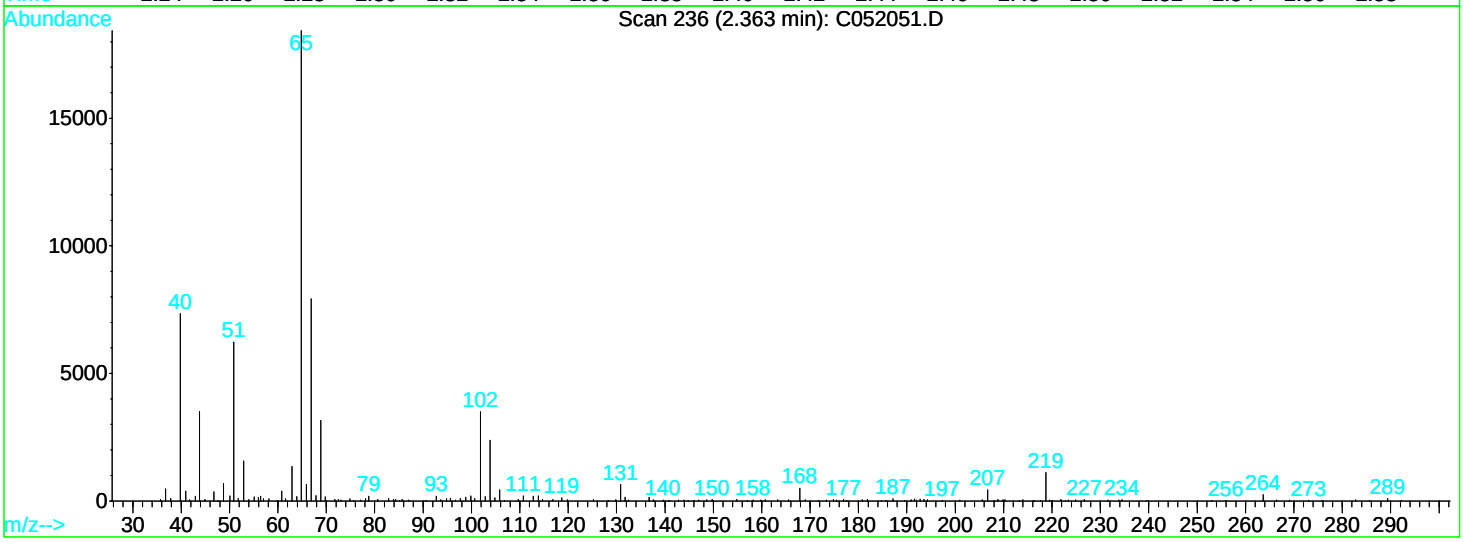
Ion	Exp%	Act%
102.00	100	100
65.00	535.70	585.57#
51.00	1609.20	203.06#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\2016\030916\C052051.D Vial: 20
Acq On : 9 Mar 2016 3:43 pm Operator: JTR
Sample : 526483-004-4924 *1* Inst : A140
Misc : 5.05G/5ML,03/09/16,JTR,15:11,SOIL Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 10 8:49 2016 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\2012\021916S.M (RTE Integrator)
Title : 8260
Last Update : Fri Feb 19 13:34:43 2016
Response via : Multiple Level Calibration





TIC: C052051.D

(3) 1,2-Dichloroethane-d4 (S)

2.36min 41.83ppb m

response 7046

Ion	Exp%	Act%
102.00	100	100
65.00	535.70	565.37#
51.00	1609.20	196.05#
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\030916\C052059.D Vial: 28
Acq On : 9 Mar 2016 5:53 pm Operator: JTR
Sample : 526483-005-4925 *1* Inst : A140
Misc : 4.99G/5ML,03/09/16,JTR,16:53,SOIL Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 10 8:52 2016 Quant Results File: 021916S.RES

Quant Method : C:\HPCHEM\1...\021916S.M (RTE Integrator)
Title : 8260
Last Update : Fri Feb 19 13:34:43 2016
Response via : Initial Calibration
DataAcq Meth : BTEX

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	2.17	168	99242	50.00	ppb	0.02
5) 1,4-Difluorobenzene	2.58	114	127141	50.00	ppb	0.02
7) Chlorobenzene-d5	4.87	117	120971	50.00	ppb	0.03
13) 1,4-Dichlorobenzene-d4	7.47	152	113917	50.00	ppb	0.03
System Monitoring Compounds						
3) 1,2-Dichloroethane-d4	2.37	102	10520	49.01	ppb	0.03
Spiked Amount 50.000	Range 80 - 120		Recovery = 98.02%			
4) Dibromofluoromethane	2.17	113	68505	50.04	ppb	0.02
Spiked Amount 50.000	Range 74 - 126		Recovery = 100.08%			
8) Toluene-d8	3.57	98	152609	45.78	ppb	0.02
Spiked Amount 50.000	Range 73 - 132		Recovery = 91.56%			
14) 4-Bromofluorobenzene	6.14	95	66128	43.94	ppb	0.03
Spiked Amount 50.000	Range 58 - 152		Recovery = 87.88%			

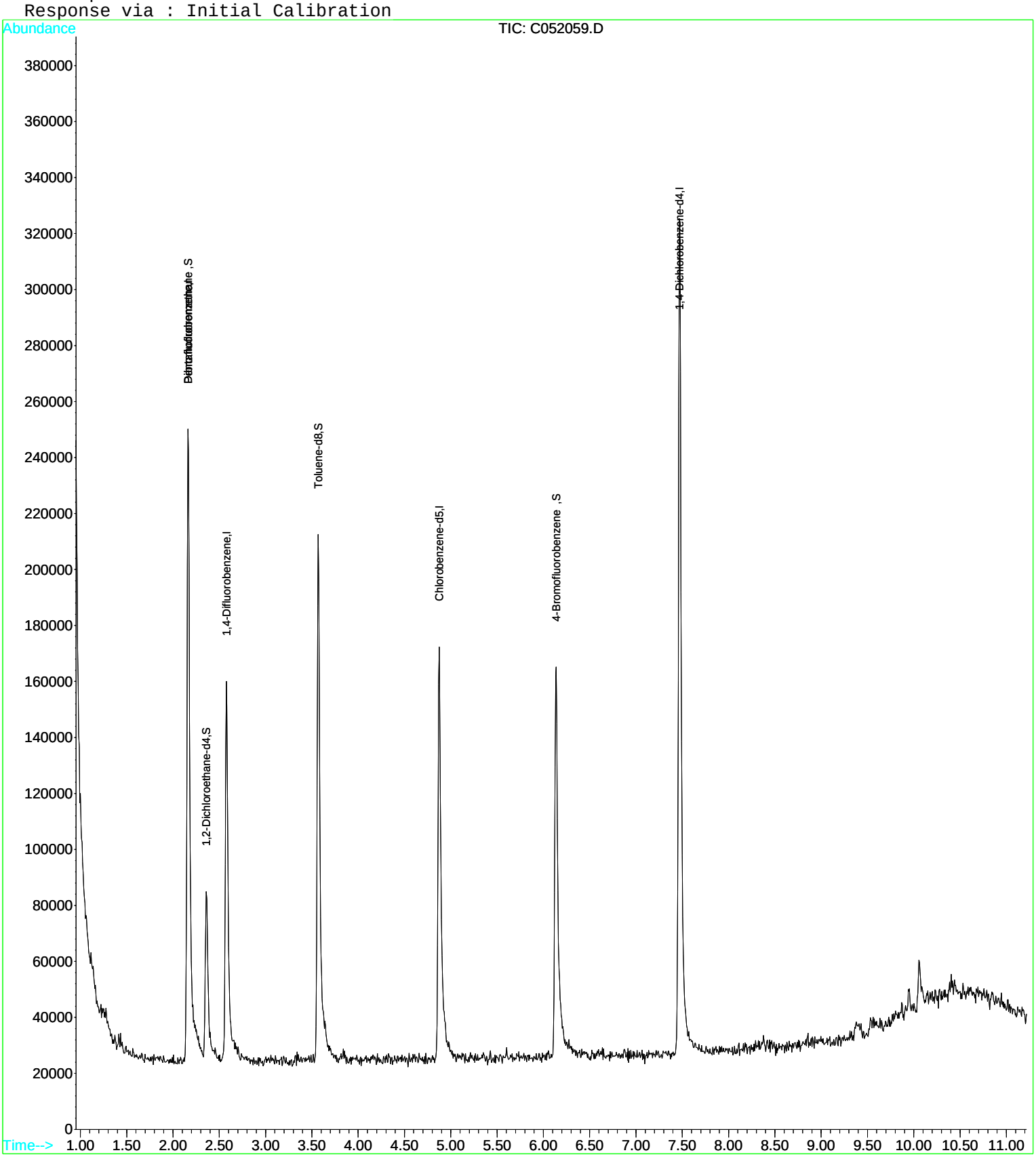
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\2016\030916\C052059.D Vial: 28
Acq On : 9 Mar 2016 5:53 pm Operator: JTR
Sample : 526483-005-4925 *1* Inst : A140
Misc : 4.99G/5ML,03/09/16,JTR,16:53,SOIL Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 10 8:52 2016 Quant Results File: 021916S.RES

Method : C:\HPCHEM\1\METHODS\2012\021916S.M (RTE Integrator)
Title : 8260
Last Update : Fri Feb 19 13:34:43 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\030916\C052058.D Vial: 27
Acq On : 9 Mar 2016 5:38 pm Operator: JTR
Sample : 526483-006-4926 *1* Inst : A140
Misc : 5.03G/5ML,03/09/16,JTR,16:52,SOIL Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 10 8:51 2016 Quant Results File: 021916S.RES

Quant Method : C:\HPCHEM\1...\021916S.M (RTE Integrator)
Title : 8260
Last Update : Fri Feb 19 13:34:43 2016
Response via : Initial Calibration
DataAcq Meth : BTEX

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	2.16	168	110770	50.00	ppb	0.02
5) 1,4-Difluorobenzene	2.57	114	131197	50.00	ppb	0.02
7) Chlorobenzene-d5	4.87	117	99631	50.00	ppb	0.02
13) 1,4-Dichlorobenzene-d4	7.47	152	50115	50.00	ppb	0.02
System Monitoring Compounds						
3) 1,2-Dichloroethane-d4	2.36	102	11027	46.02	ppb	0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 92.04%			
4) Dibromofluoromethane	2.16	113	73913	48.37	ppb	0.01
Spiked Amount 50.000	Range 74 - 126		Recovery = 96.74%			
8) Toluene-d8	3.57	98	146063	53.20	ppb	0.02
Spiked Amount 50.000	Range 73 - 132		Recovery = 106.40%			
14) 4-Bromofluorobenzene	6.13	95	44257	66.84	ppb	0.02
Spiked Amount 50.000	Range 58 - 152		Recovery = 133.68%			

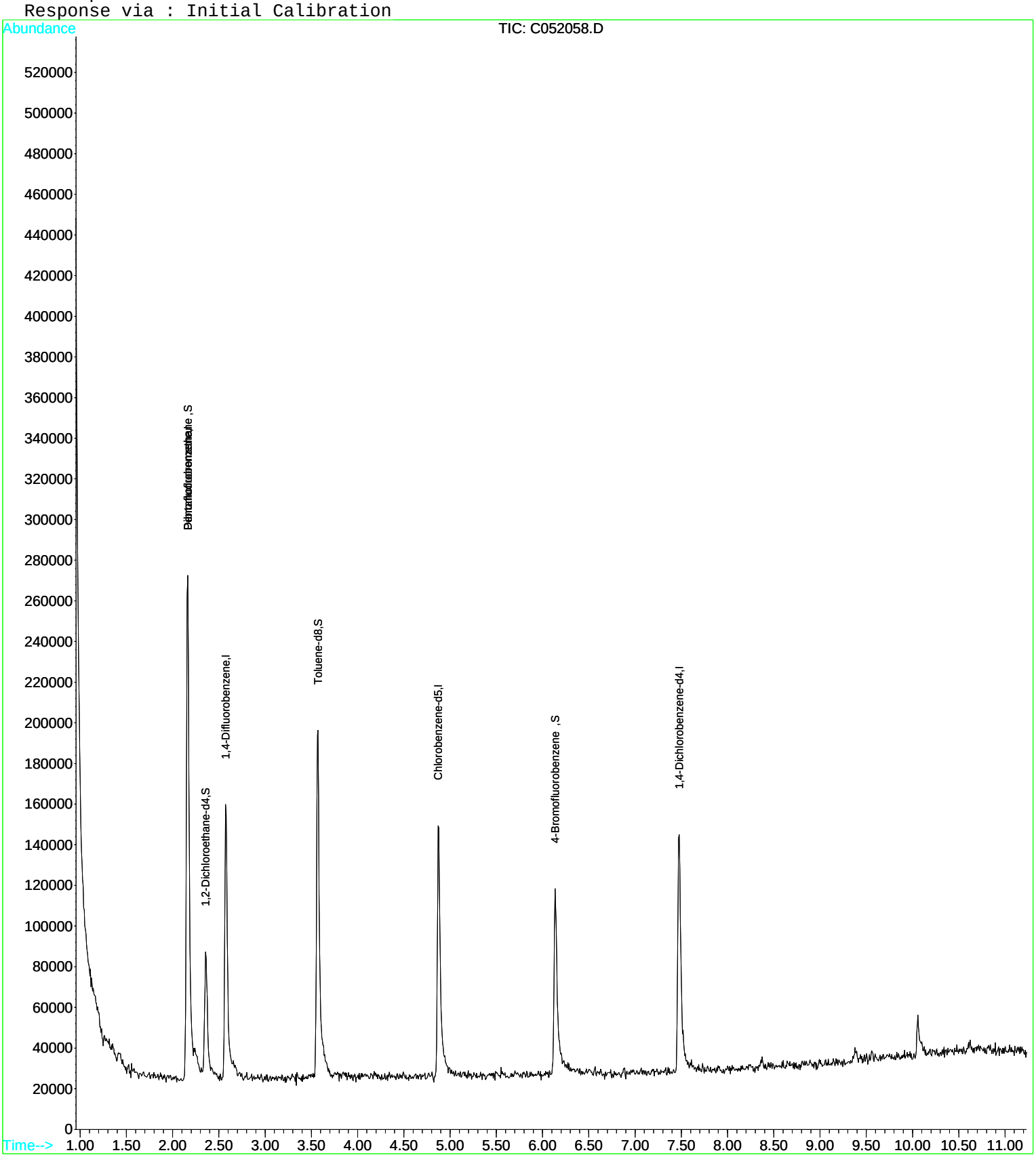
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\2016\030916\C052058.D Vial: 27
Acq On : 9 Mar 2016 5:38 pm Operator: JTR
Sample : 526483-006-4926 *1* Inst : A140
Misc : 5.03G/5ML,03/09/16,JTR,16:52,SOIL Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 10 8:51 2016 Quant Results File: 021916S.RES

Method : C:\HPCHEM\1\METHODS\2012\021916S.M (RTE Integrator)
Title : 8260
Last Update : Fri Feb 19 13:34:43 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\2016\031016\I028802.D Vial: 13
Acq On : 10 Mar 2016 1:24 pm Operator: JTR
Sample : 526483-007-4928 *1* Inst : A102
Misc : 40ML,03/10/16,JTR,12:50 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 10 16:04 2016 Quant Results File: 030916W.RES

Quant Method : C:\HPCHEM\1\METHODS\030916W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Wed Mar 09 16:11:16 2016
Response via : Initial Calibration
DataAcq Meth : BTEX

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	2.04	168	132116	50.00	ppb	0.00
4) 1,4,Difluorobenzene	2.44	114	206652	50.00	ppb	0.00
9) Chlorobenzene-d5	4.66	82	107318	50.00	ppb	0.00
13) 1,4-Dichlorobenzene-d4	7.21	152	104033	50.00	ppb	0.00
System Monitoring Compounds						
3) Dibromofluoromethane	2.03	113	84855	50.10	ppb	0.00
Spiked Amount 50.000	Range 75 - 131		Recovery = 100.20%			
5) 1,2-dichloroethane-d4	2.21	65	92633	47.99	ppb	0.00
Spiked Amount 50.000	Range 63 - 144		Recovery = 95.98%			
7) Toluene-d8	3.42	98	223394	47.99	ppb	0.00
Spiked Amount 50.000	Range 80 - 117		Recovery = 95.98%			
14) 4-Bromofluorobenzene	5.89	95	87529	50.53	ppb	0.00
Spiked Amount 50.000	Range 74 - 124		Recovery = 101.06%			

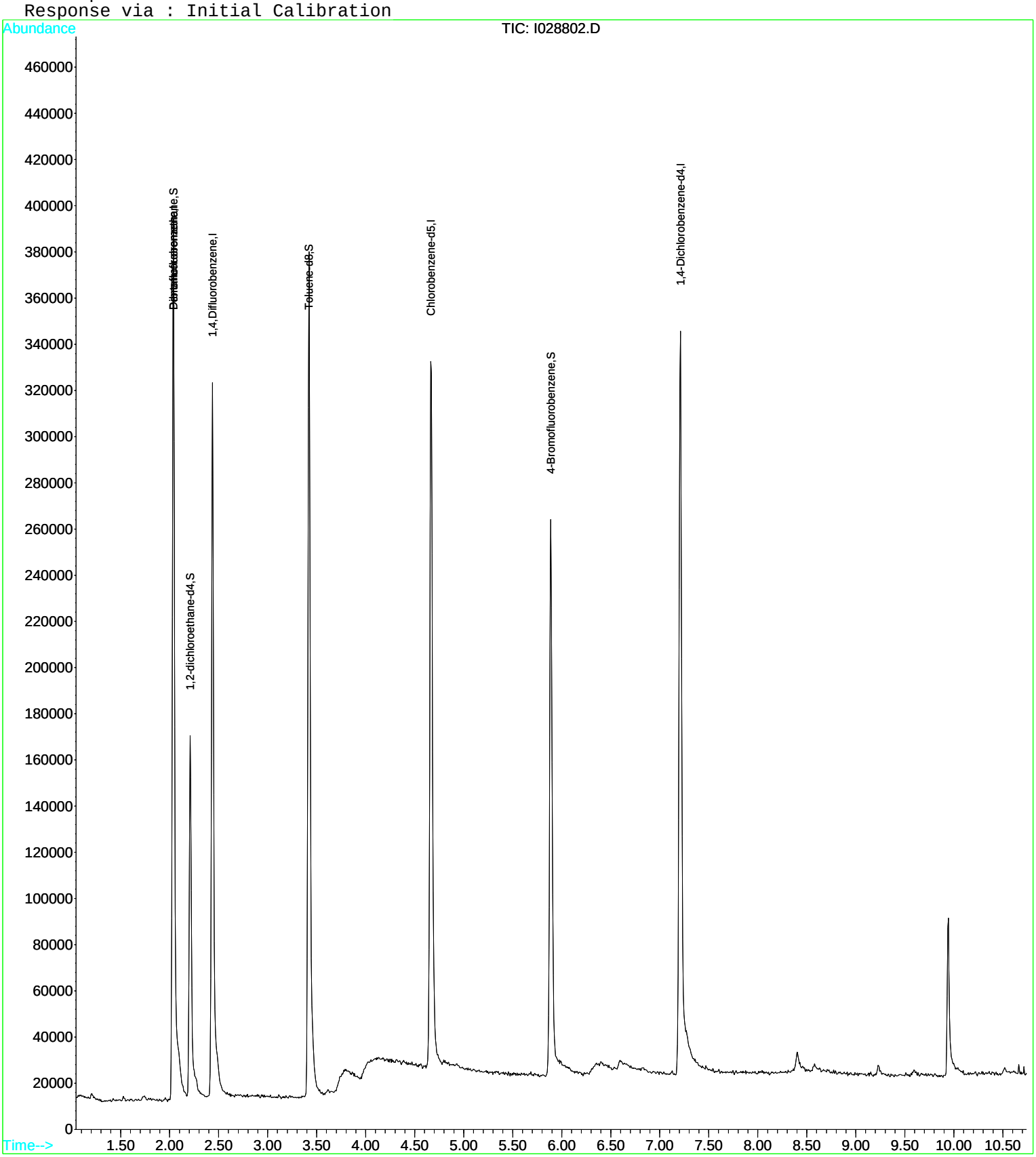
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\2016\031016\I028802.D Vial: 13
Acq On : 10 Mar 2016 1:24 pm Operator: JTR
Sample : 526483-007-4928 *1* Inst : A102
Misc : 40ML,03/10/16,JTR,12:50 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Mar 10 16:04 2016 Quant Results File: 030916W.RES

Method : C:\HPCHEM\1\METHODS\030916W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Wed Mar 09 16:11:16 2016
Response via : Initial Calibration



WET CHEM BATCH DATA VALIDATION CHECKLIST

Houston, Texas

ANALYSIS SW9056/E300 INSTRUMENT: A-166 /ICS 2000
A-209/CS 2000

MATRIX: WATER /SOIL SEQUENCE: A166-03-14-16

LIMS METHOD: SM9056/E300 BATCH ID: 706369/990268

BALANCE ID:

QC REQUIREMENT		CHECK	
A. INITIAL CALIBRATION CURVE	☐ 6-POINT, ≤10% RPD	☒ Y ☐ N	☐ Y ☐ N
B. CALIBRATION	☐ ≤10% DIFFERENCE FROM INITIAL	☒ Y ☐ N	☐ Y ☐ N
	☐ ≤10% DIFFERENCE FROM INITIAL CALIBRATION		
C. CONTINUE CALIBRATION VERIFICATION	☐ ANALYZED EACH ANALYTICAL BATCH	☒ Y ☐ N	☐ Y ☐ N
	☐ RECOVERIES 90-110%	☒ Y ☐ N	☐ Y ☐ N
D. LABORATORY CONTROL STANDARD	☐ ANALYZED EACH ANALYTICAL BATCH	☒ Y ☐ N	☐ Y ☐ N
	☐ RECOVERIES 90–110%		
E. METHOD BLANK	☐ ANALYZED EACH ANALYTICAL BATCH	☒ Y ☐ N	☐ Y ☐ N
	☐ ONE PER MATRIX	☒ Y ☐ N	☐ Y ☐ N

G. Ifs the analysis performed with in holding time of ___ days? ☒ Y ☐ N ☐ Y ☐ N

H. Are the standards and reagents used whit-in expiry date? ☒ Y ☐ N ☐ Y ☐ N

I. Are the logbook entries completed accurately? ☒ Y ☐ N ☐ Y ☐ N

J. Are the log books mistake been corrected by single line strike-off, dated &initialed by the analyst? ☒ Y ☐ N ☐ Y ☐ N

K. Has a QNF attached, if needed? ☒ Y ☐ N ☐ Y ☐ N

NOTE: a QNF must be issued for any deviation(S)

ANALYST: DEP DATE: 03-15-16

DATA VALIDATOR: _____ DATE: _____

REVIEWED/DATE_____

ICV/CCV-HIGH PURITY – LOT #1522611/1522610 (ID # 5152058-3/5152058-2)
WET -052-60-09
LCS/LCSD/MS/MSD- CPI INTERNATIONAL LOT # 1078399 (ID # 5152050-7/5152050-6)
WET -024-60-10

Title: TEST1
Datasource: DCJP20B1_local
Location: ICS-2000_2\My Sequences\2016\MARCH
Timebase: ICS-2000_2
#Samples: 90
Created: 3/14/2016 9:46:09 AM by A166
Last Update: 3/15/2016 9:26:06 AM by A166

No.	Name	Type	Program	Status	Inj. Date/Time	Dil. Factor	Comment
1	RINSE	Unknown	ANIONS_2	Finished	3/14/2016 9:46:28 AM	1.0000	
2	RINSE	Unknown	ANIONS_2	Finished	3/14/2016 10:00:52 AM	1.0000	
3	ICV	Unknown	ANIONS_2	Finished	3/14/2016 10:15:17 AM	1.0000	
4	ICB	Unknown	ANIONS_2	Finished	3/14/2016 10:29:41 AM	1.0000	
5	MB	Unknown	ANIONS_2	Finished	3/14/2016 10:44:05 AM	1.0000	
6	LCS	Unknown	ANIONS_2	Finished	3/14/2016 10:58:30 AM	1.0000	
7	LCSD	Unknown	ANIONS_2	Finished	3/14/2016 11:12:54 AM	1.0000	
8	526751-003	Unknown	ANIONS_2	Finished	3/14/2016 11:33:36 AM	5.0000	
9	526751-003 S	Unknown	ANIONS_2	Finished	3/14/2016 11:49:31 AM	5.0000	
10	526751-003 SD	Unknown	ANIONS_2	Finished	3/14/2016 12:03:56 PM	5.0000	
11	526751-001	Unknown	ANIONS_2	Finished	3/14/2016 12:18:20 PM	1.0000	
12	526751-002	Unknown	ANIONS_2	Finished	3/14/2016 12:32:44 PM	1.0000	
13	526747-001	Unknown	ANIONS_2	Finished	3/14/2016 12:47:09 PM	1.0000	
14	526747-002	Unknown	ANIONS_2	Finished	3/14/2016 1:01:33 PM	1.0000	
15	CCV	Unknown	ANIONS_2	Finished	3/14/2016 1:15:57 PM	1.0000	
16	CCB	Unknown	ANIONS_2	Finished	3/14/2016 1:30:22 PM	1.0000	
17	526216-001	Unknown	ANIONS_2	Finished	3/14/2016 1:44:46 PM	10.0000	
18	526216-002	Unknown	ANIONS_2	Finished	3/14/2016 1:59:11 PM	10.0000	
19	526216-003	Unknown	ANIONS_2	Finished	3/14/2016 2:13:35 PM	10.0000	
20	526238-001 DL	Unknown	ANIONS_2	Finished	3/14/2016 2:27:59 PM	100.0000	
21	526215-002	Unknown	ANIONS_2	Finished	3/14/2016 2:42:24 PM	1.0000	
22	525215-001 RE	Unknown	ANIONS_2	Finished	3/14/2016 2:56:48 PM	50.0000	
23	526337-001	Unknown	ANIONS_2	Finished	3/14/2016 3:18:52 PM	50.0000	
24	526337-002	Unknown	ANIONS_2	Finished	3/14/2016 3:33:16 PM	1.0000	
25	526337-003	Unknown	ANIONS_2	Finished	3/14/2016 3:47:40 PM	50.0000	
26	526337-004	Unknown	ANIONS_2	Finished	3/14/2016 4:02:04 PM	50.0000	
27	CCV	Unknown	ANIONS_2	Finished	3/14/2016 4:16:28 PM	1.0000	
28	CCB	Unknown	ANIONS_2	Finished	3/14/2016 4:30:53 PM	1.0000	
29	526337-004 S	Unknown	ANIONS_2	Finished	3/14/2016 4:45:18 PM	50.0000	
30	526337-004 SD	Unknown	ANIONS_2	Finished	3/14/2016 4:59:42 PM	50.0000	
31	MB	Unknown	ANIONS_2	Finished	3/14/2016 5:14:06 PM	1.0000	
32	LCS	Unknown	ANIONS_2	Finished	3/14/2016 5:28:31 PM	1.0000	
33	LCSD	Unknown	ANIONS_2	Finished	3/14/2016 5:42:55 PM	1.0000	
34	526415-005	Unknown	ANIONS_2	Finished	3/14/2016 6:06:47 PM	5.0000	
35	526415-001	Unknown	ANIONS_2	Finished	3/14/2016 6:21:11 PM	500.0000	
36	526415-002	Unknown	ANIONS_2	Finished	3/14/2016 6:35:36 PM	500.0000	
37	526415-003	Unknown	ANIONS_2	Finished	3/14/2016 6:50:00 PM	50.0000	
38	526415-004	Unknown	ANIONS_2	Finished	3/14/2016 7:04:24 PM	500.0000	
39	CCV	Unknown	ANIONS_2	Finished	3/14/2016 7:18:50 PM	1.0000	
40	CCB	Unknown	ANIONS_2	Finished	3/14/2016 7:33:14 PM	1.0000	
41	526285-001	Unknown	ANIONS_2	Finished	3/14/2016 7:47:38 PM	20.0000	
42	526285-001 S	Unknown	ANIONS_2	Finished	3/14/2016 8:02:02 PM	20.0000	

Title: TEST1
Datasource: DCJP20B1_local
Location: ICS-2000_2\My Sequences\2016\MARCH
Timebase: ICS-2000_2
#Samples: 90
Created: 3/14/2016 9:46:09 AM by A166
Last Update: 3/15/2016 9:26:06 AM by A166

No.	Name	Type	Program	Status	Inj. Date/Time	Dil. Factor	Comment
43	526285-001 SD	Unknown	ANIONS_2	Finished	3/14/2016 8:16:26 PM	20.0000	
44	526448-001	Unknown	ANIONS_2	Finished	3/14/2016 8:30:51 PM	20.0000	
45	526448-002	Unknown	ANIONS_2	Finished	3/14/2016 8:45:16 PM	100.0000	
46	526448-002 REXXX	Unknown	ANIONS_2	Finished	3/14/2016 8:59:40 PM	1.0000	
47	526448-003	Unknown	ANIONS_2	Finished	3/14/2016 9:14:04 PM	20.0000	
48	526448-004	Unknown	ANIONS_2	Finished	3/14/2016 9:28:29 PM	20.0000	
49	526448-005	Unknown	ANIONS_2	Finished	3/14/2016 9:42:53 PM	20.0000	
50	526448-006	Unknown	ANIONS_2	Finished	3/14/2016 9:57:17 PM	20.0000	
51	CCV	Unknown	ANIONS_2	Finished	3/14/2016 10:11:42 PM	1.0000	
52	CCB	Unknown	ANIONS_2	Finished	3/14/2016 10:26:06 PM	1.0000	
53	526448-007	Unknown	ANIONS_2	Finished	3/14/2016 10:40:31 PM	20.0000	
54	526285-002	Unknown	ANIONS_2	Finished	3/14/2016 10:54:55 PM	20.0000	
55	526285-002 S	Unknown	ANIONS_2	Finished	3/14/2016 11:09:19 PM	20.0000	
56	526285-002 SD	Unknown	ANIONS_2	Finished	3/14/2016 11:23:44 PM	20.0000	
57	526483-002	Unknown	ANIONS_2	Finished	3/14/2016 11:38:08 PM	1.0000	
58	526483-003	Unknown	ANIONS_2	Finished	3/14/2016 11:52:33 PM	1.0000	
59	526483-004	Unknown	ANIONS_2	Finished	3/15/2016 12:06:57 AM	1.0000	
60	526483-005	Unknown	ANIONS_2	Finished	3/15/2016 12:21:21 AM	1.0000	
61	526483-006	Unknown	ANIONS_2	Finished	3/15/2016 12:35:46 AM	1.0000	
62	526451-001	Unknown	ANIONS_2	Finished	3/15/2016 12:50:10 AM	20.0000	
63	526311-001	Unknown	ANIONS_2	Finished	3/15/2016 1:04:34 AM	100.0000	
64	CCV	Unknown	ANIONS_2	Finished	3/15/2016 1:18:59 AM	1.0000	
65	CCB	Unknown	ANIONS_2	Finished	3/15/2016 1:33:24 AM	1.0000	
66	MB	Unknown	ANIONS_2	Finished	3/15/2016 1:47:48 AM	1.0000	
67	LCS	Unknown	ANIONS_2	Finished	3/15/2016 2:02:12 AM	1.0000	
68	LCSD	Unknown	ANIONS_2	Finished	3/15/2016 2:16:37 AM	1.0000	
69	526737-001	Unknown	ANIONS_2	Finished	3/15/2016 2:31:02 AM	10.0000	
70	526737-001 S	Unknown	ANIONS_2	Finished	3/15/2016 2:45:26 AM	10.0000	
71	526737-001 SD	Unknown	ANIONS_2	Finished	3/15/2016 2:59:51 AM	10.0000	
72	526737-003	Unknown	ANIONS_2	Finished	3/15/2016 3:14:15 AM	10.0000	
73	526487-001 DL	Unknown	ANIONS_2	Finished	3/15/2016 3:28:40 AM	200.0000	
74	526487-002 DL	Unknown	ANIONS_2	Finished	3/15/2016 3:43:04 AM	200.0000	
75	526487-003 DL	Unknown	ANIONS_2	Finished	3/15/2016 3:57:28 AM	200.0000	
76	CCV	Unknown	ANIONS_2	Finished	3/15/2016 4:11:53 AM	1.0000	
77	CCB	Unknown	ANIONS_2	Finished	3/15/2016 4:26:17 AM	1.0000	
78	526638-002 DL	Unknown	ANIONS_2	Finished	3/15/2016 4:40:41 AM	50.0000	
79	526638-003 DL	Unknown	ANIONS_2	Finished	3/15/2016 4:55:06 AM	50.0000	
80	526370-001 DL	Unknown	ANIONS_2	Finished	3/15/2016 5:09:30 AM	10.0000	
81	526370-001 RE	Unknown	ANIONS_2	Finished	3/15/2016 5:23:54 AM	200.0000	
82	526370-002 DL	Unknown	ANIONS_2	Finished	3/15/2016 5:38:19 AM	10.0000	
83	526370-002 RE	Unknown	ANIONS_2	Finished	3/15/2016 5:52:43 AM	200.0000	
84	526633-001 DL	Unknown	ANIONS_2	Finished	3/15/2016 6:07:08 AM	50.0000	

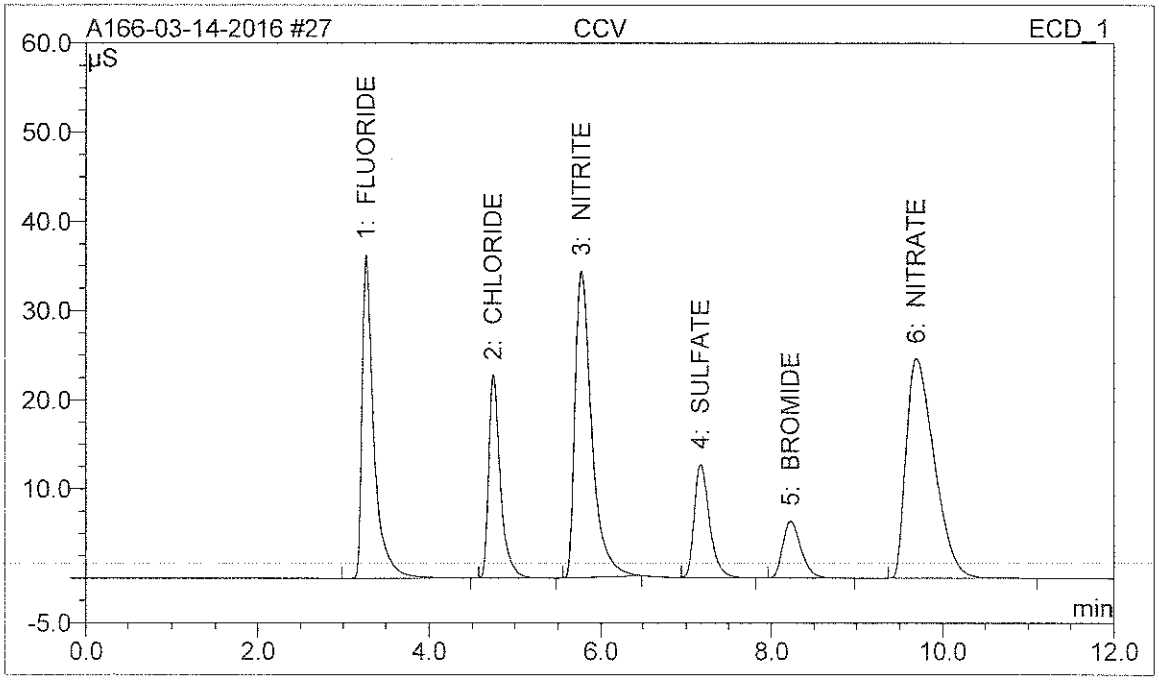
Title: TEST1
Datasource: DCJP20B1_local
Location: ICS-2000_2\My Sequences\2016\MARCH
Timebase: ICS-2000_2 Created: 3/14/2016 9:46:09 AM by A166
#Samples: 90 Last Update: 3/15/2016 9:26:06 AM by A166

No.	Name	Type	Program	Status	Inj. Date/Time	Dil. Factor	Comment
85	526737-002	Unknown	ANIONS_2	Finished	3/15/2016 6:21:32 AM	10.0000	
86	526737-002 S	Unknown	ANIONS_2	Finished	3/15/2016 6:35:57 AM	10.0000	
87	526737-002 SD	Unknown	ANIONS_2	Finished	3/15/2016 6:50:21 AM	10.0000	
88	CCV	Unknown	ANIONS_2	Finished	3/15/2016 7:04:46 AM	1.0000	
89	CCB	Unknown	ANIONS_2	Finished	3/15/2016 7:19:10 AM	1.0000	
90	STOP	Unknown	shutdown2	Finished	3/15/2016 7:33:35 AM	1.0000	

Sample Analysis Report

Sample Name:	CCV	**Sample No.:**	27
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	1.0000
Date Time Collected:	3/14/2016 4:16 PM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

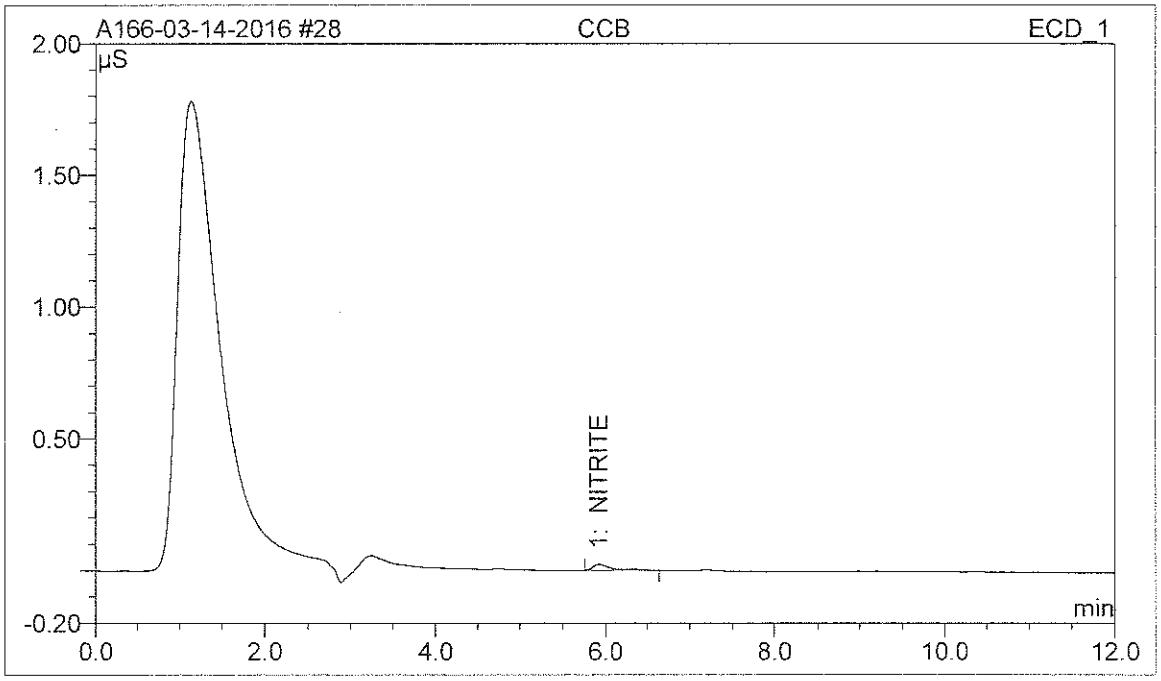
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	FLUORIDE	3.27	5.882	36.265	10.5862	17.06
2	CHLORIDE	4.75	3.701	22.773	10.3435	16.66
3	NITRITE	5.77	7.728	34.339	10.6716	17.19
4	SULFATE	7.17	2.660	12.678	9.7849	15.76
5	BROMIDE	8.23	1.561	6.361	10.3578	16.69
6	NITRATE	9.69	9.383	24.677	10.3255	16.64



Sample Analysis Report

Sample Name:	CCB	**Sample No.:**	28
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	1.0000
Date Time Collected:	3/14/2016 4:30 PM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

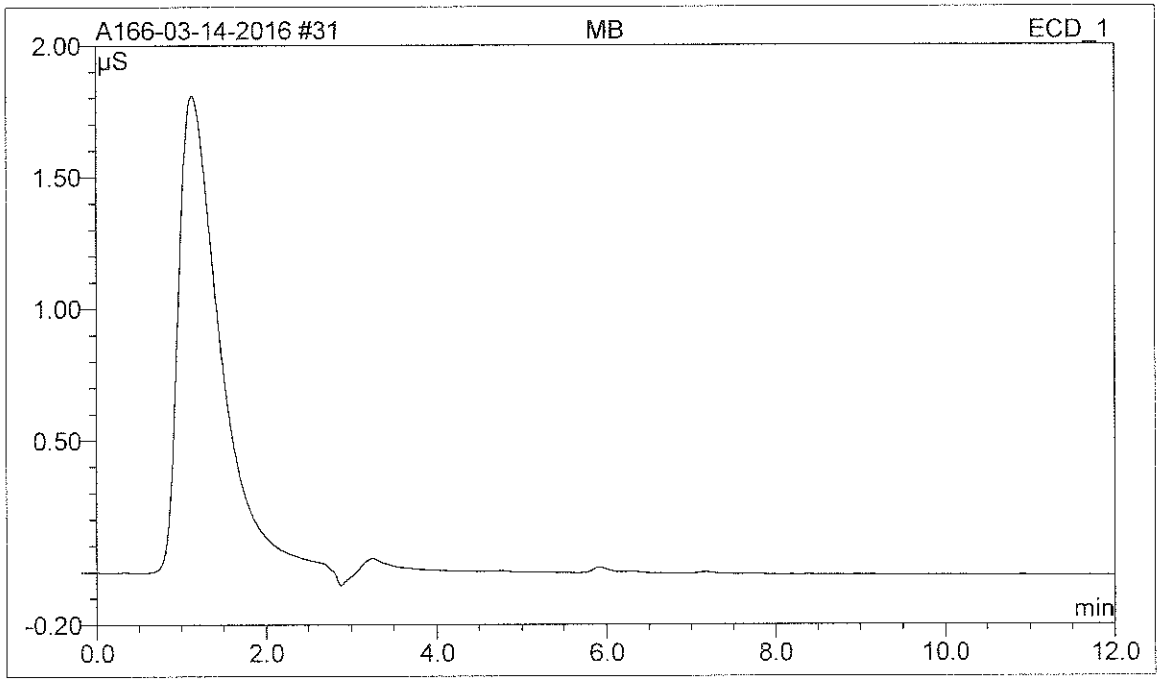
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	NITRITE	5.93	0.006	0.024	-0.0432	n.a.



Sample Analysis Report

Sample Name:	MB	**Sample No.:**	31
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	1.0000
Date Time Collected:	3/14/2016 5:14 PM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

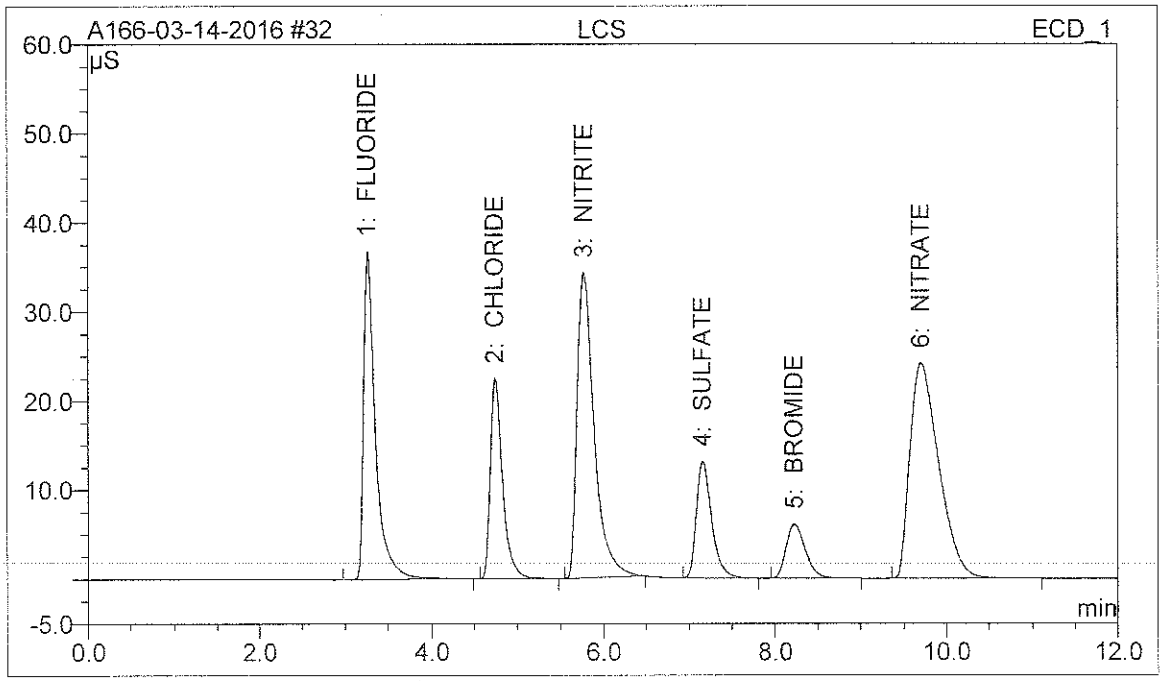
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %



Sample Analysis Report

Sample Name:	LCS	**Sample No.:**	32
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	1.0000
Date Time Collected:	3/14/2016 5:28 PM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

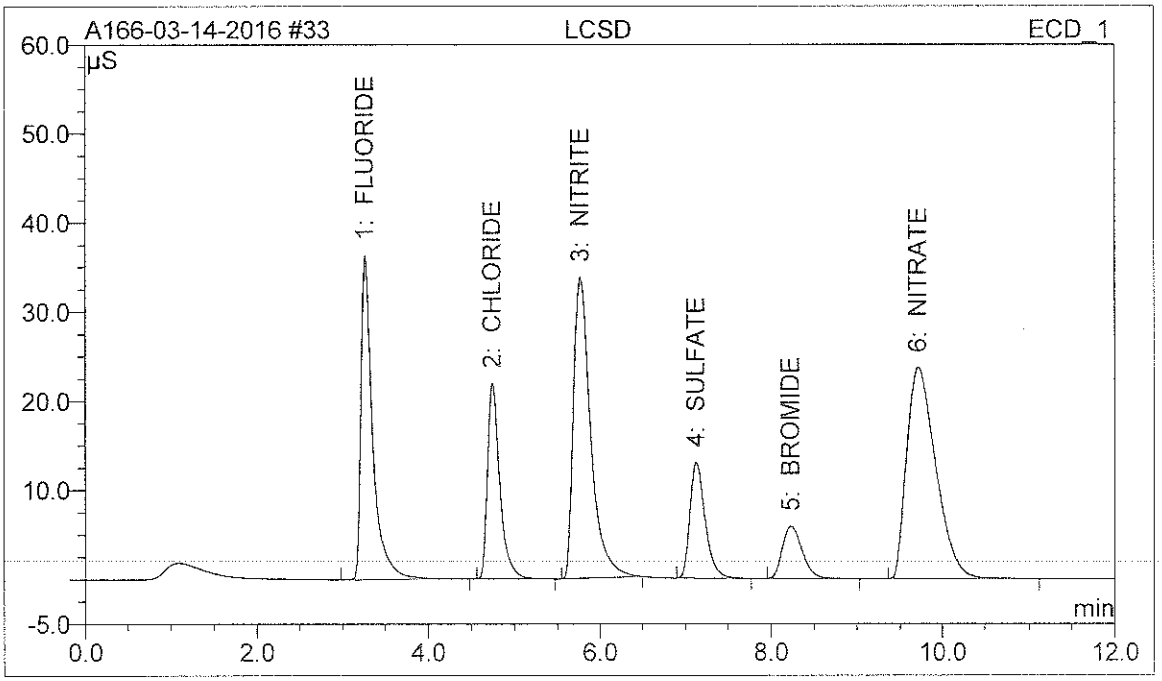
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	FLUORIDE	3.27	5.978	36.737	10.7614	17.15
2	CHLORIDE	4.74	3.725	22.473	10.4085	16.59
3	NITRITE	5.77	7.862	34.220	10.8577	17.31
4	SULFATE	7.16	2.722	13.012	10.0082	15.95
5	BROMIDE	8.23	1.552	6.054	10.3020	16.42
6	NITRATE	9.70	9.446	24.157	10.3939	16.57



Sample Analysis Report

Sample Name:	LCSD	**Sample No.:**	33
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	1.0000
Date Time Collected:	3/14/2016 5:42 PM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

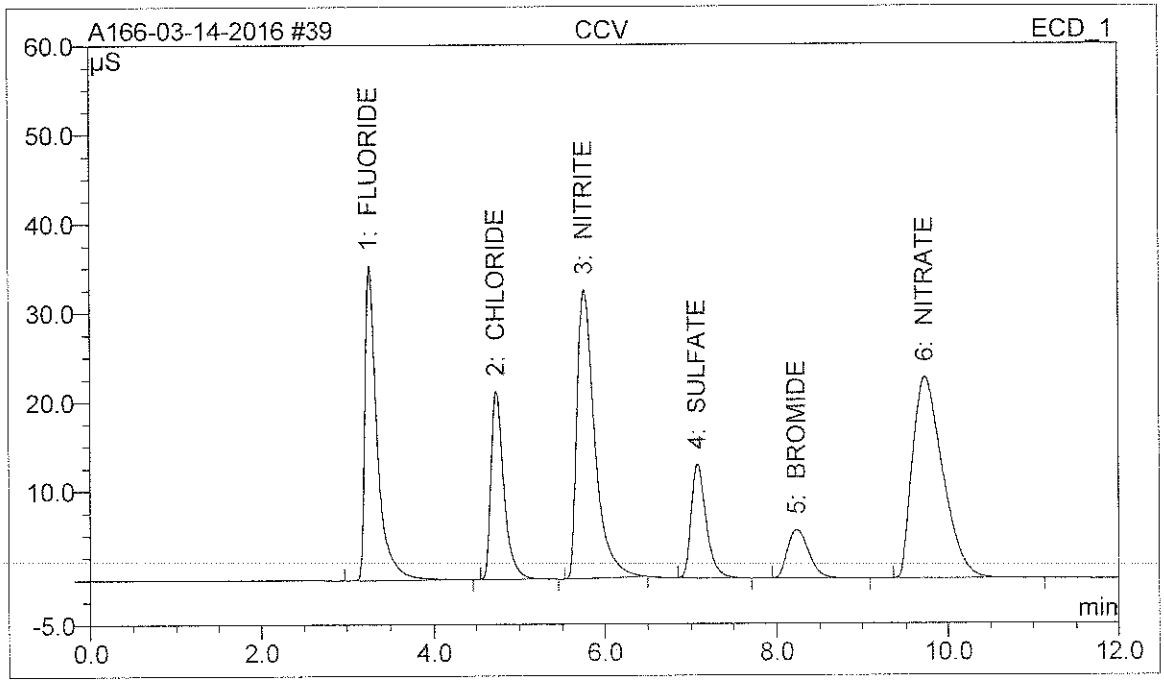
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	FLUORIDE	3.27	5.990	36.404	10.7829	17.18
2	CHLORIDE	4.74	3.719	21.981	10.3926	16.56
3	NITRITE	5.77	7.886	33.736	10.8914	17.36
4	SULFATE	7.13	2.719	13.008	9.9984	15.93
5	BROMIDE	8.24	1.552	5.867	10.3023	16.42
6	NITRATE	9.71	9.436	23.742	10.3832	16.55



Sample Analysis Report

Sample Name:	CCV	**Sample No.:**	39
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	1.0000
Date Time Collected:	3/14/2016 7:18 PM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

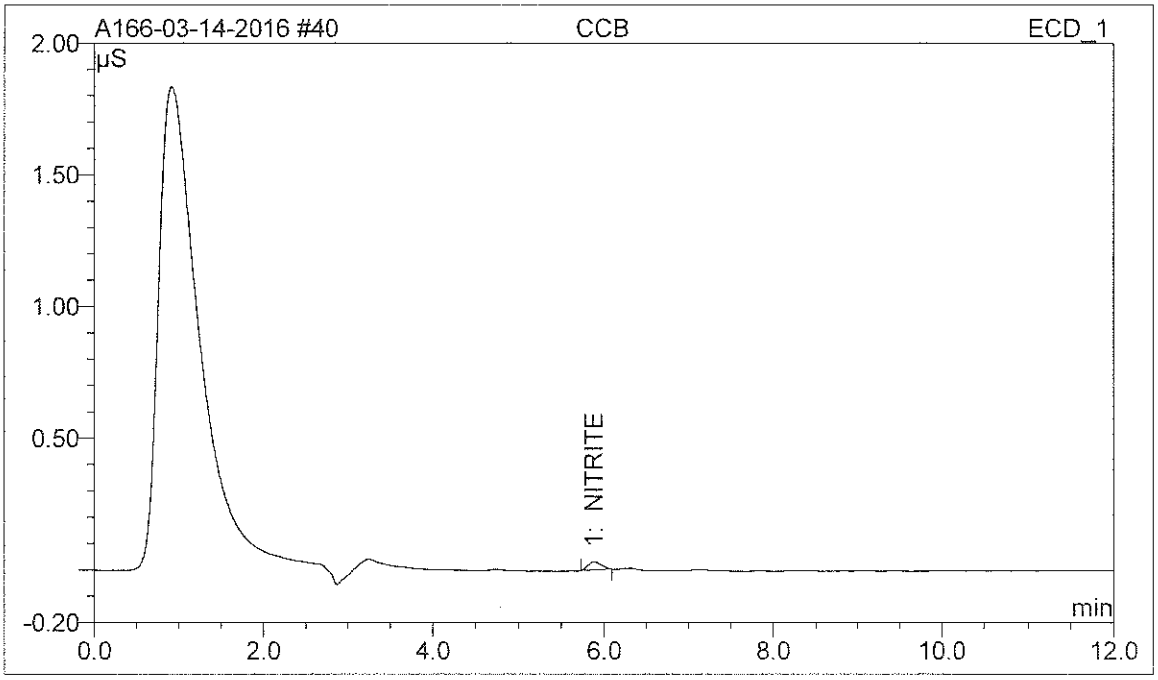
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	FLUORIDE	3.26	5.886	35.295	10.5933	17.08
2	CHLORIDE	4.74	3.693	21.131	10.3208	16.64
3	NITRITE	5.77	7.814	32.344	10.7903	17.40
4	SULFATE	7.08	2.647	12.729	9.7380	15.70
5	BROMIDE	8.24	1.546	5.435	10.2657	16.55
6	NITRATE	9.73	9.365	22.616	10.3056	16.62



Sample Analysis Report

Sample Name:	CCB	**Sample No.:**	40
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	1.0000
Date Time Collected:	3/14/2016 7:33 PM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

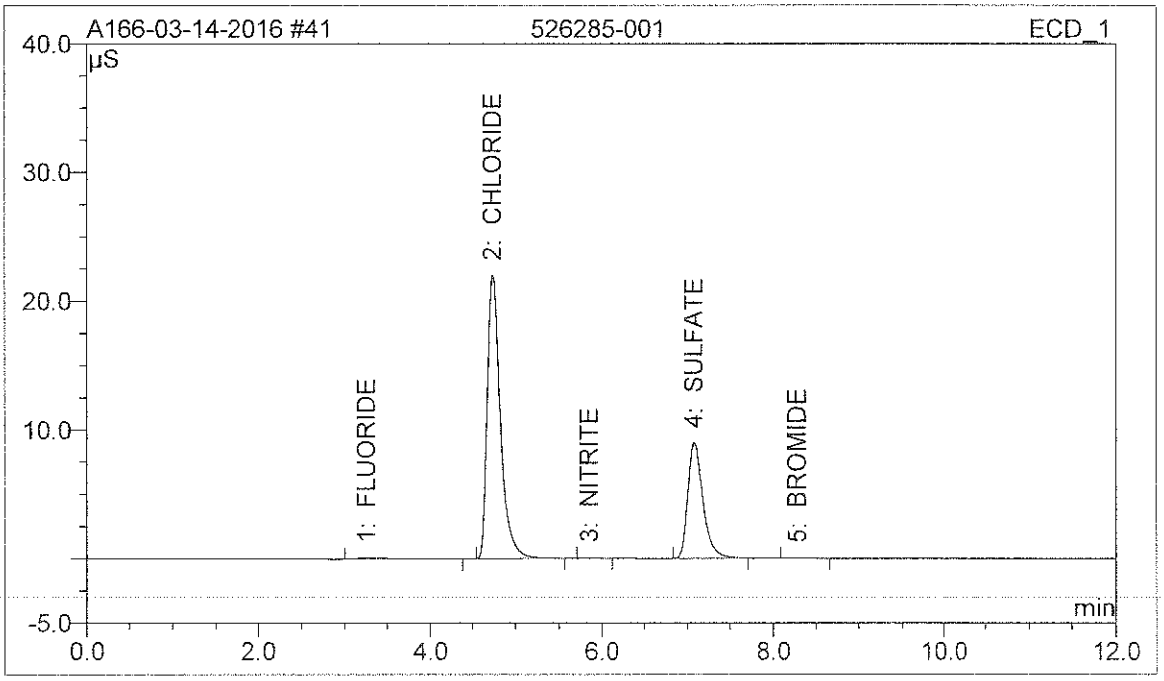
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	NITRITE	5.89	0.005	0.030	-0.0444	n.a.



Sample Analysis Report

Sample Name:	526285-001	**Sample No.:**	41
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	20.0000
Date Time Collected:	3/14/2016 7:47 PM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

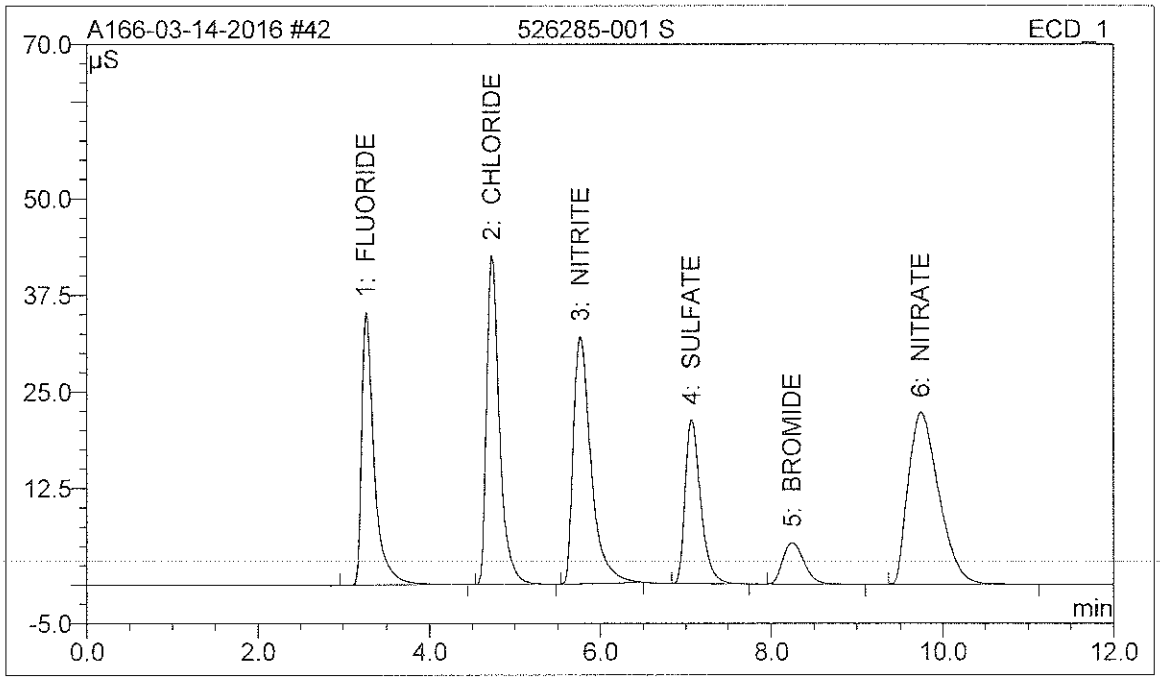
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	FLUORIDE	3.26	0.036	0.090	-0.5407	-0.15
2	CHLORIDE	4.74	3.892	22.003	217.4215	60.76
3	NITRITE	5.86	0.011	0.055	-0.7336	-0.21
4	SULFATE	7.08	1.848	8.968	136.8946	38.26
5	BROMIDE	8.29	0.007	0.026	4.7850	1.34



Sample Analysis Report

Sample Name:	526285-001 S	**Sample No.:**	42
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	20.0000
Date Time Collected:	3/14/2016 8:02 PM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

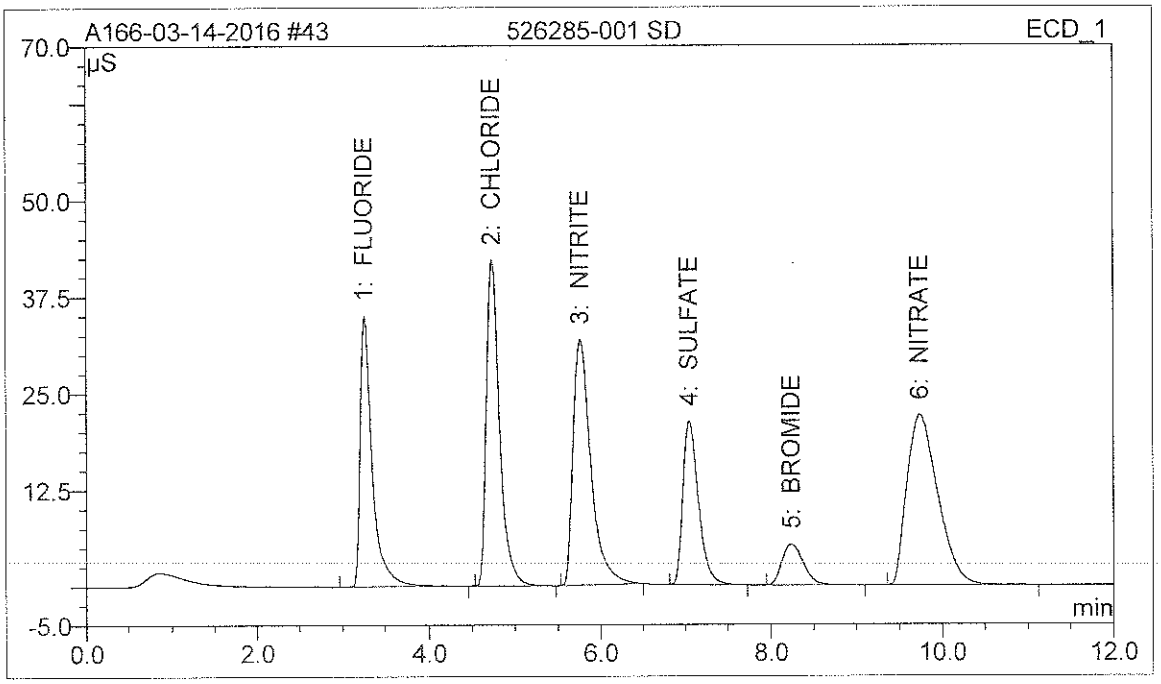
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	FLUORIDE	3.26	5.887	35.256	211.9189	13.38
2	CHLORIDE	4.74	7.547	42.601	419.1165	26.47
3	NITRITE	5.77	7.707	31.979	212.8399	13.44
4	SULFATE	7.07	4.558	21.233	333.0869	21.04
5	BROMIDE	8.25	1.525	5.351	202.5864	12.80
6	NITRATE	9.74	9.256	22.281	203.7540	12.87



Sample Analysis Report

Sample Name:	526285-001 SD	**Sample No.:**	43
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	20.0000
Date Time Collected:	3/14/2016 8:16 PM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

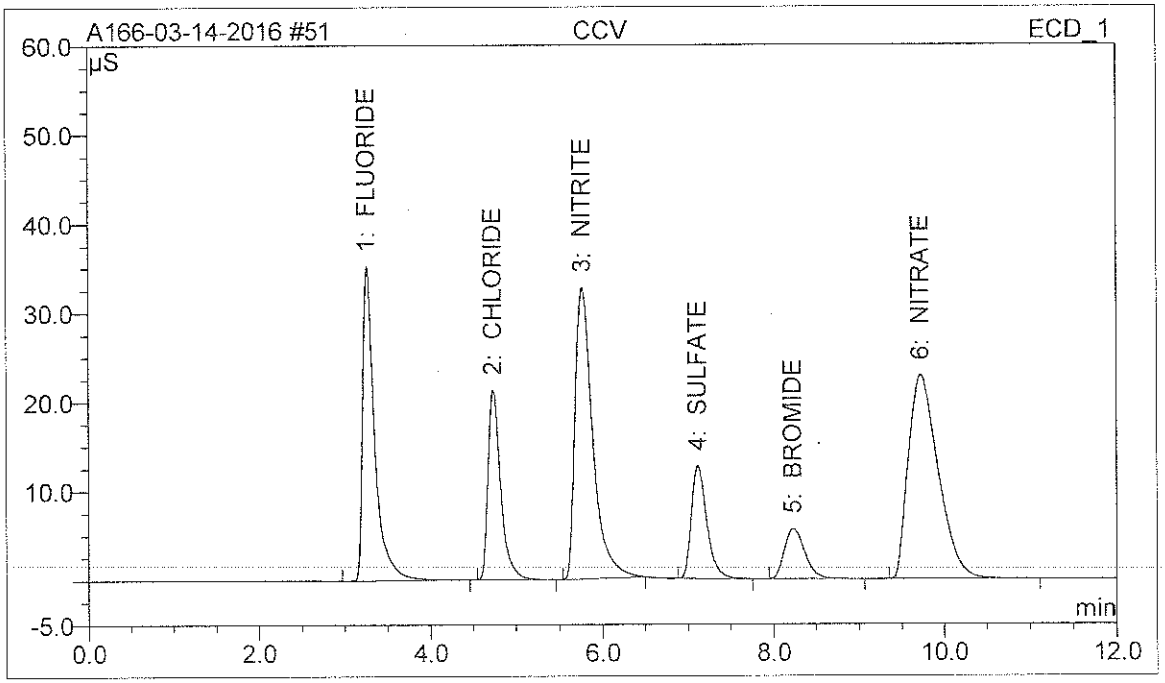
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	FLUORIDE	3.26	5.873	35.039	211.3843	13.37
2	CHLORIDE	4.73	7.541	42.215	418.8198	26.49
3	NITRITE	5.77	7.719	31.792	213.1695	13.48
4	SULFATE	7.05	4.553	21.223	332.7757	21.05
5	BROMIDE	8.25	1.520	5.269	201.9198	12.77
6	NITRATE	9.74	9.230	22.081	203.1782	12.85



Sample Analysis Report

Sample Name:	CCV	**Sample No.:**	51
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	1.0000
Date Time Collected:	3/14/2016 10:11 PM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

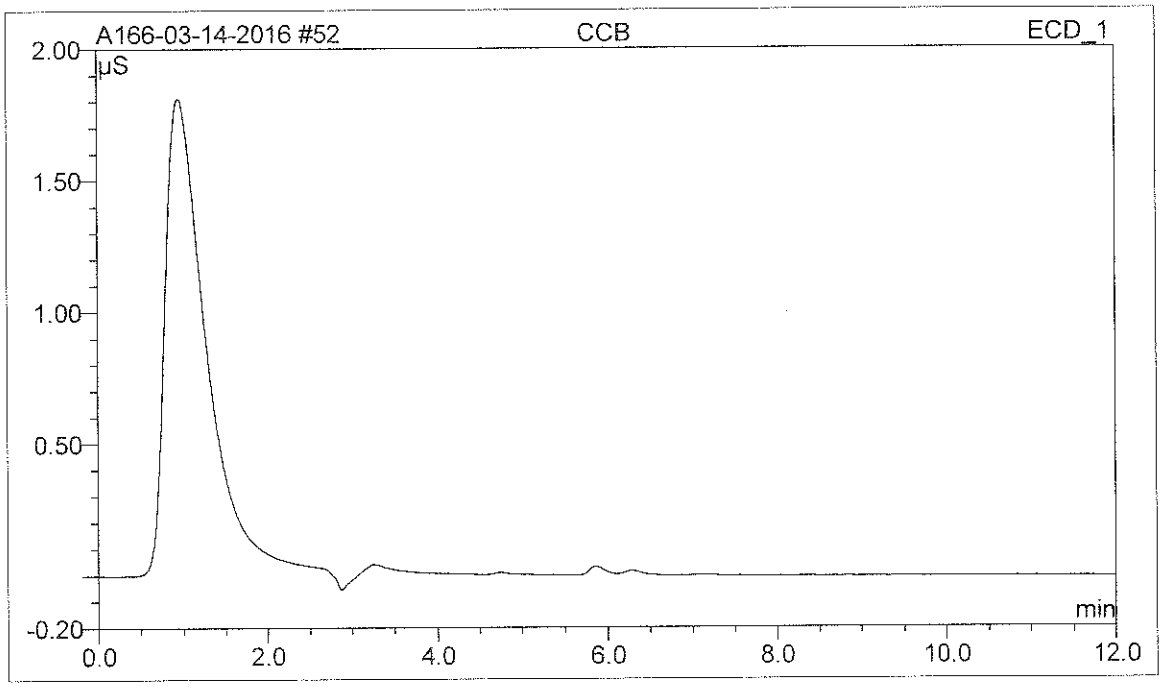
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	FLUORIDE	3.26	5.876	35.221	10.5749	17.08
2	CHLORIDE	4.74	3.693	21.329	10.3196	16.67
3	NITRITE	5.77	7.785	32.653	10.7507	17.36
4	SULFATE	7.11	2.644	12.638	9.7249	15.71
5	BROMIDE	8.24	1.546	5.583	10.2610	16.57
6	NITRATE	9.72	9.343	22.877	10.2814	16.61



Sample Analysis Report

Sample Name:	CCB	**Sample No.:**	52
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	1.0000
Date Time Collected:	3/14/2016 10:26 PM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

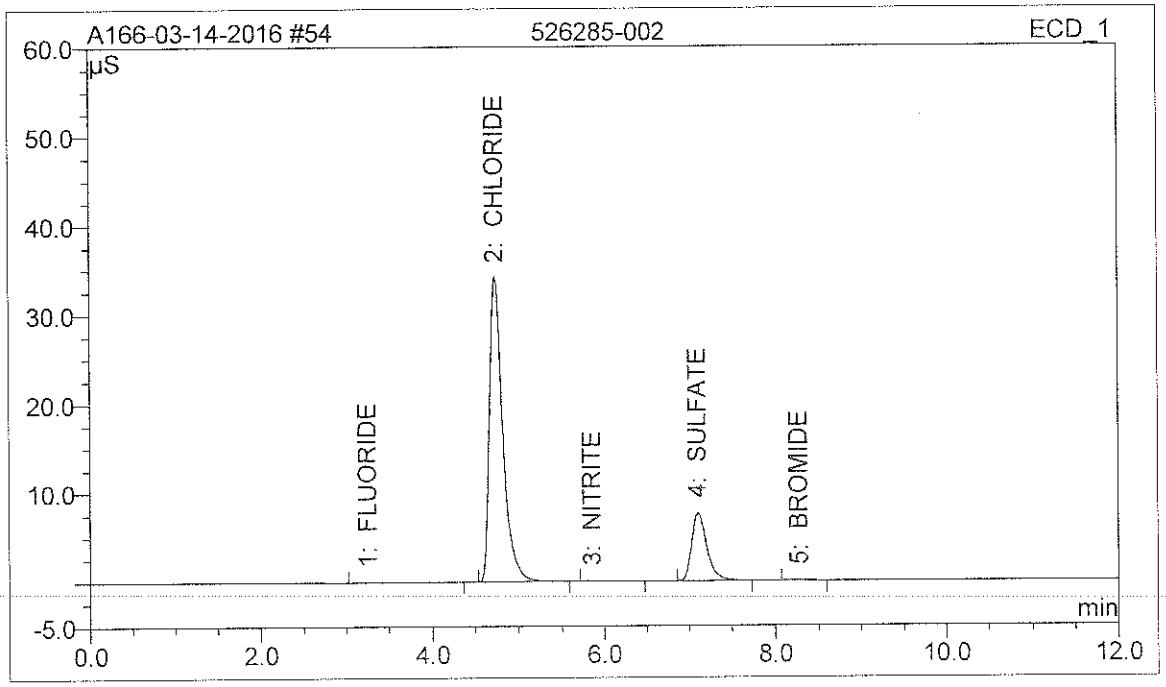
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %



Sample Analysis Report

Sample Name:	526285-002	**Sample No.:**	54
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	20.0000
Date Time Collected:	3/14/2016 10:54 PM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

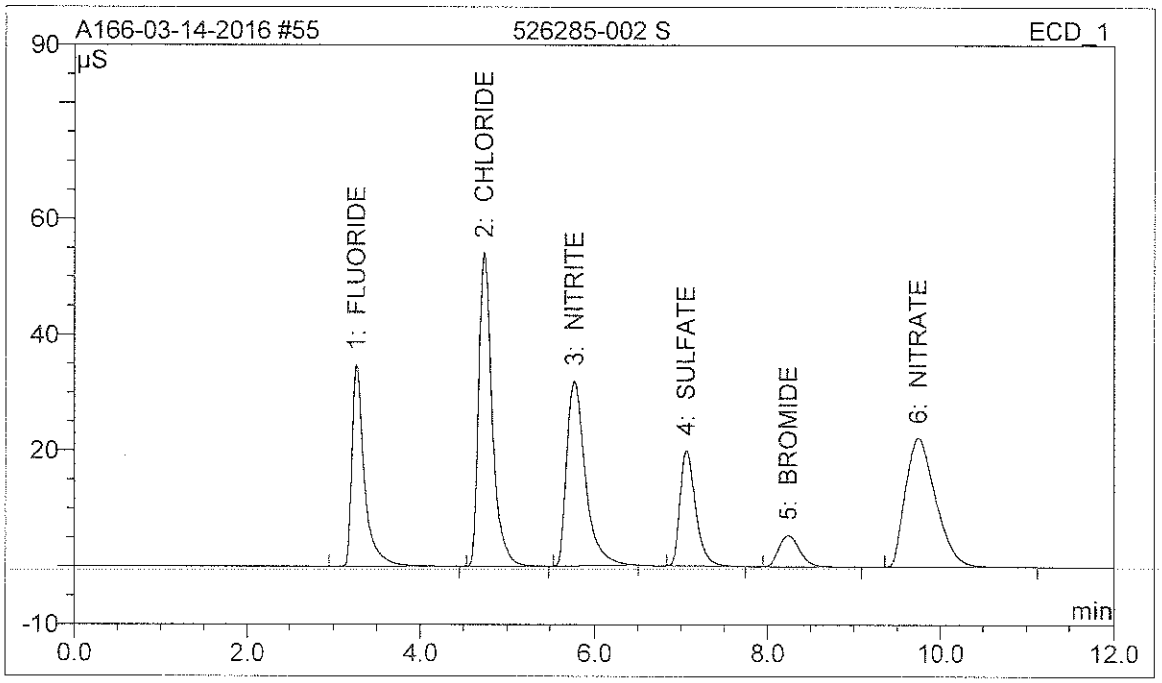
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	FLUORIDE	3.26	0.029	0.078	-0.7734	-0.17
2	CHLORIDE	4.74	6.118	34.167	340.2550	73.80
3	NITRITE	5.86	0.012	0.054	-0.6969	-0.15
4	SULFATE	7.10	1.576	7.589	117.1549	25.41
5	BROMIDE	8.28	0.009	0.035	5.0917	1.10



Sample Analysis Report

Sample Name:	526285-002 S	**Sample No.:**	55
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	20.0000
Date Time Collected:	3/14/2016 11:09 PM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

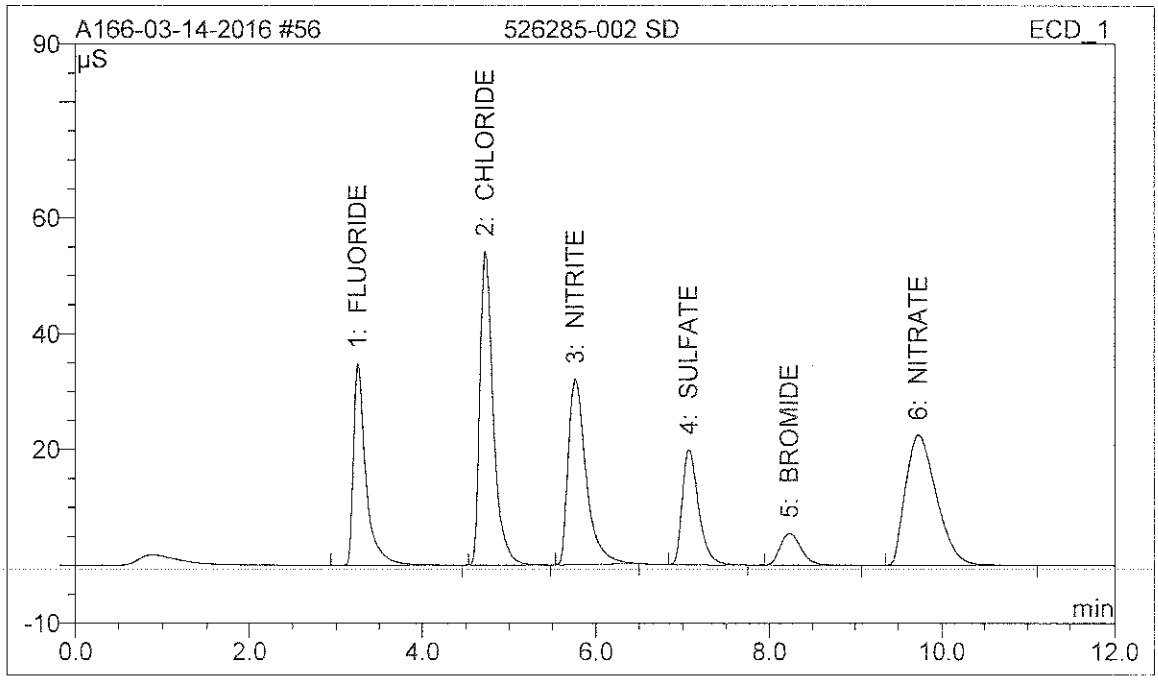
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	FLUORIDE	3.26	5.845	34.742	210.3750	12.54
2	CHLORIDE	4.73	9.700	54.142	537.9945	32.07
3	NITRITE	5.77	7.712	31.902	212.9824	12.70
4	SULFATE	7.06	4.266	19.927	311.9846	18.60
5	BROMIDE	8.24	1.520	5.358	201.8915	12.03
6	NITRATE	9.74	9.194	22.238	202.3942	12.06



Sample Analysis Report

Sample Name:	526285-002 SD	**Sample No.:**	56
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	20.0000
Date Time Collected:	3/14/2016 11:23 PM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

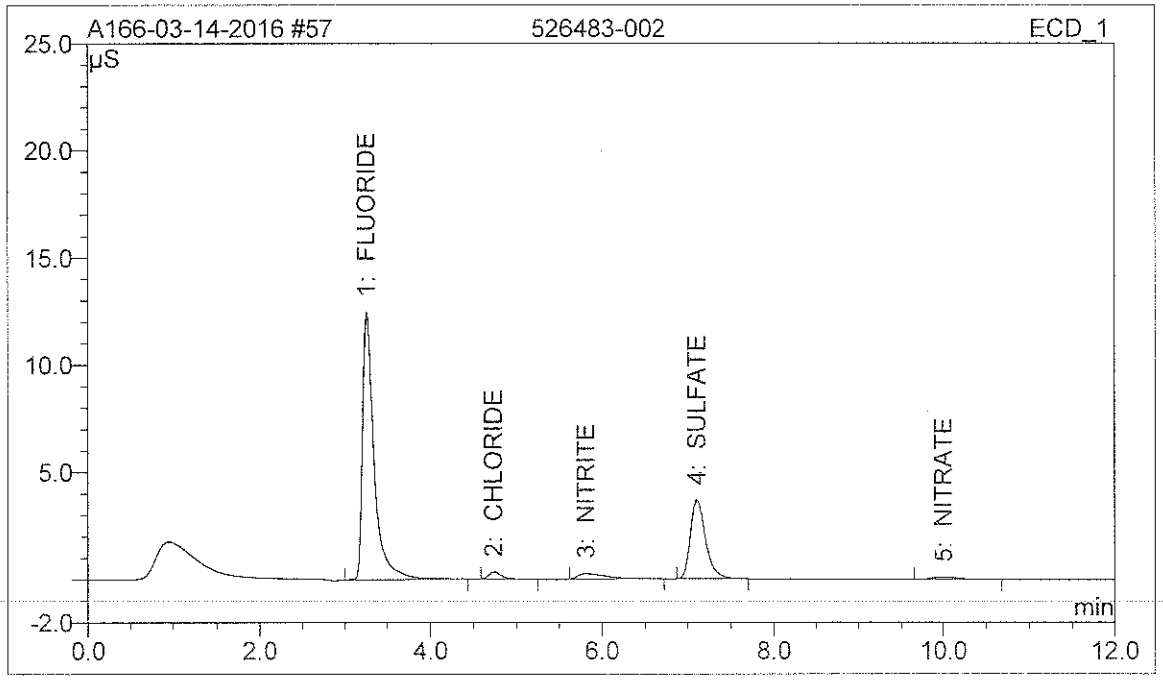
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	FLUORIDE	3.26	5.846	34.824	210.4308	12.56
2	CHLORIDE	4.73	9.672	54.163	536.4566	32.02
3	NITRITE	5.77	7.682	32.001	212.1598	12.66
4	SULFATE	7.07	4.262	19.836	311.7057	18.61
5	BROMIDE	8.24	1.523	5.440	202.3165	12.08
6	NITRATE	9.73	9.180	22.492	202.0981	12.06



Sample Analysis Report

Sample Name:	526483-002	**Sample No.:**	57
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	1.0000
Date Time Collected:	3/14/2016 11:38 PM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

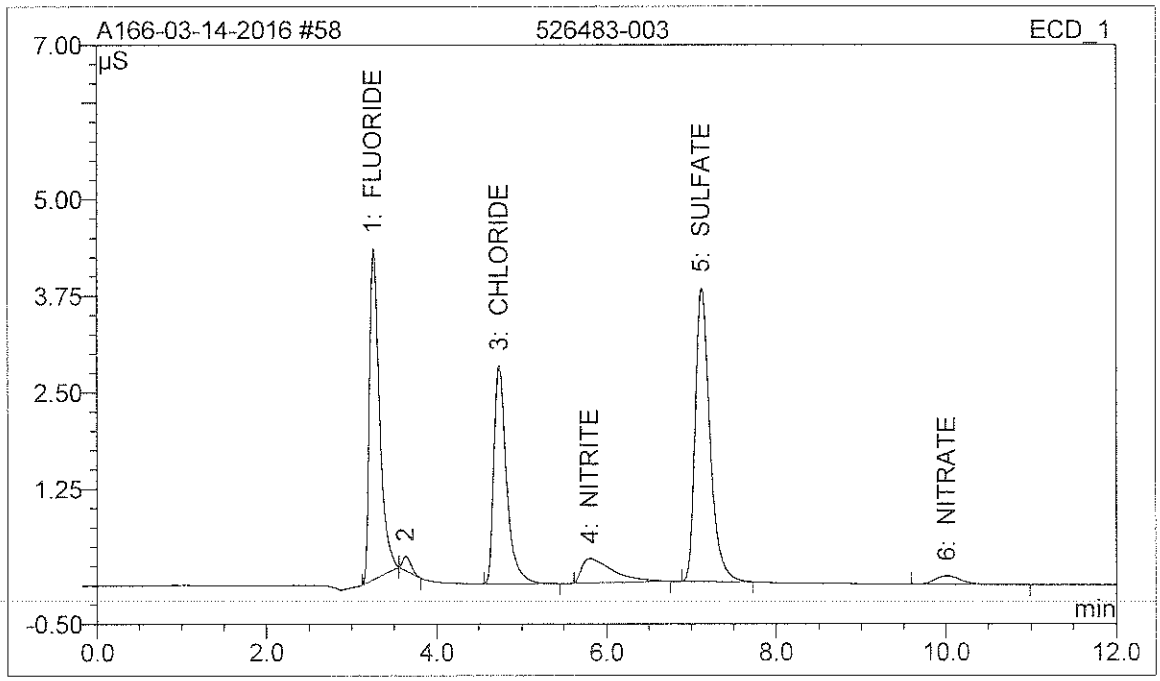
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	FLUORIDE	3.26	1.998	12.482	3.5357	50.97
2	CHLORIDE	4.74	0.058	0.340	0.2886	4.16
3	NITRITE	5.82	0.107	0.261	0.0965	1.39
4	SULFATE	7.11	0.749	3.686	2.8639	41.28
5	NITRATE	10.01	0.038	0.109	0.1528	2.20



Sample Analysis Report

Sample Name:	526483-003	**Sample No.:**	58
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	1.0000
Date Time Collected:	3/14/2016 11:52 PM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

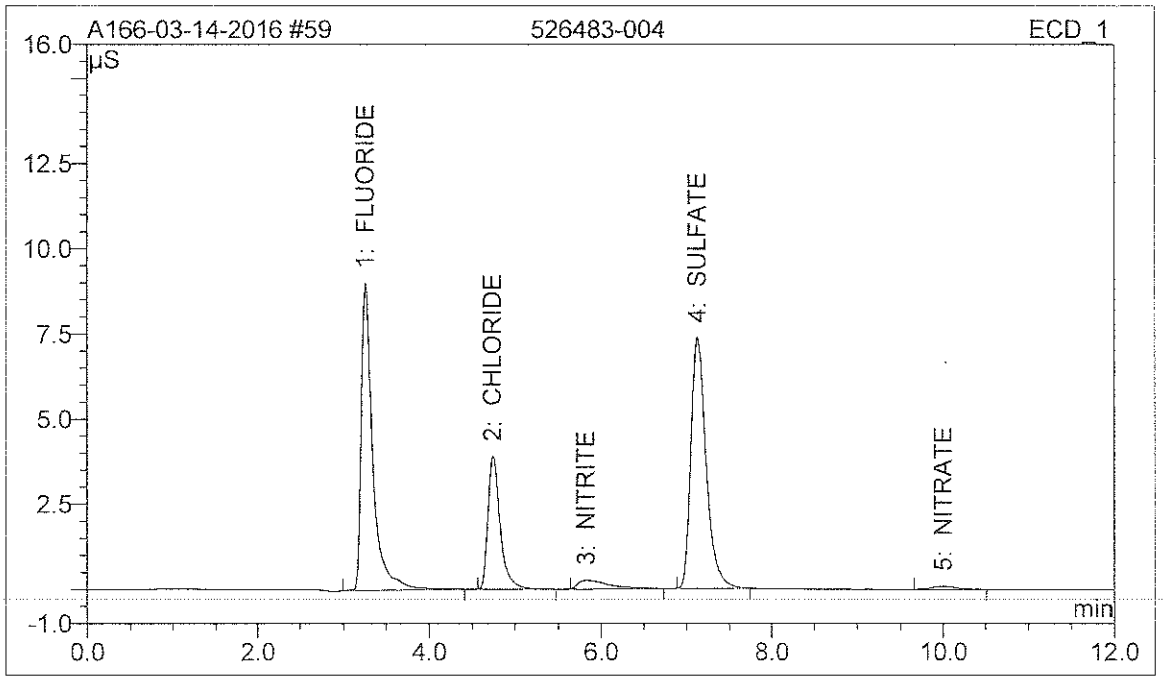
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	FLUORIDE	3.26	0.596	4.283	0.9905	17.50
3	CHLORIDE	4.74	0.476	2.819	1.4424	25.49
4	NITRITE	5.80	0.137	0.317	0.1379	2.44
5	SULFATE	7.12	0.768	3.800	2.9352	51.86
6	NITRATE	10.01	0.039	0.108	0.1535	2.71



Sample Analysis Report

Sample Name:	526483-004	**Sample No.:**	59
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	1.0000
Date Time Collected:	3/15/2016 12:06 AM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

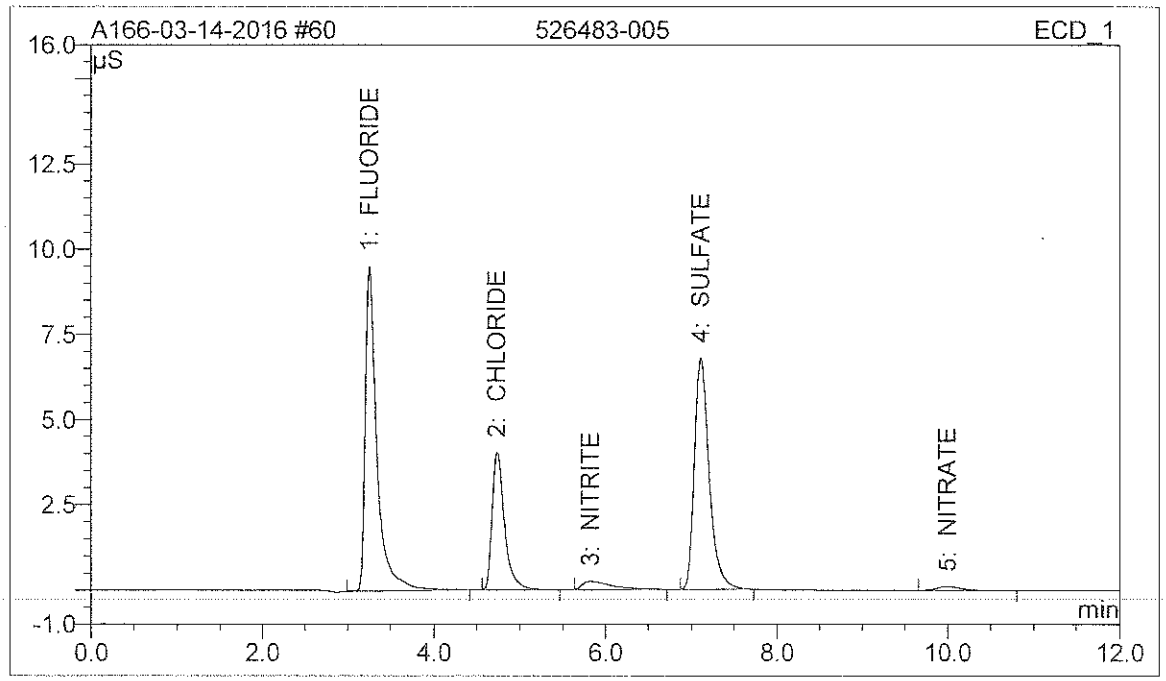
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	FLUORIDE	3.26	1.423	9.002	2.4911	24.16
2	CHLORIDE	4.74	0.655	3.895	1.9370	18.78
3	NITRITE	5.83	0.107	0.255	0.0962	0.93
4	SULFATE	7.13	1.516	7.359	5.6426	54.72
5	NITRATE	10.00	0.031	0.093	0.1452	1.41



Sample Analysis Report

Sample Name:	526483-005	**Sample No.:**	60
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	1.0000
Date Time Collected:	3/15/2016 12:21 AM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

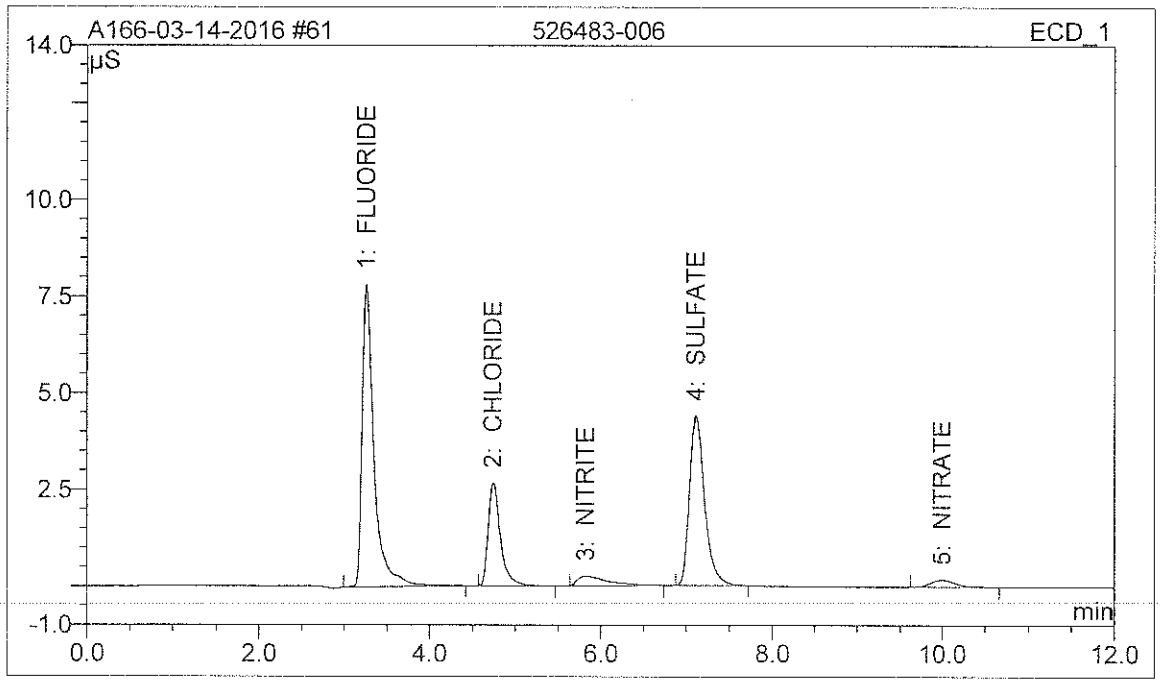
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	FLUORIDE	3.26	1.510	9.523	2.6500	26.22
2	CHLORIDE	4.74	0.680	4.028	2.0043	19.83
3	NITRITE	5.83	0.100	0.243	0.0866	0.86
4	SULFATE	7.11	1.397	6.792	5.2119	51.57
5	NITRATE	10.00	0.039	0.112	0.1531	1.52



Sample Analysis Report

Sample Name:	526483-006	**Sample No.:**	61
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	1.0000
Date Time Collected:	3/15/2016 12:35 AM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

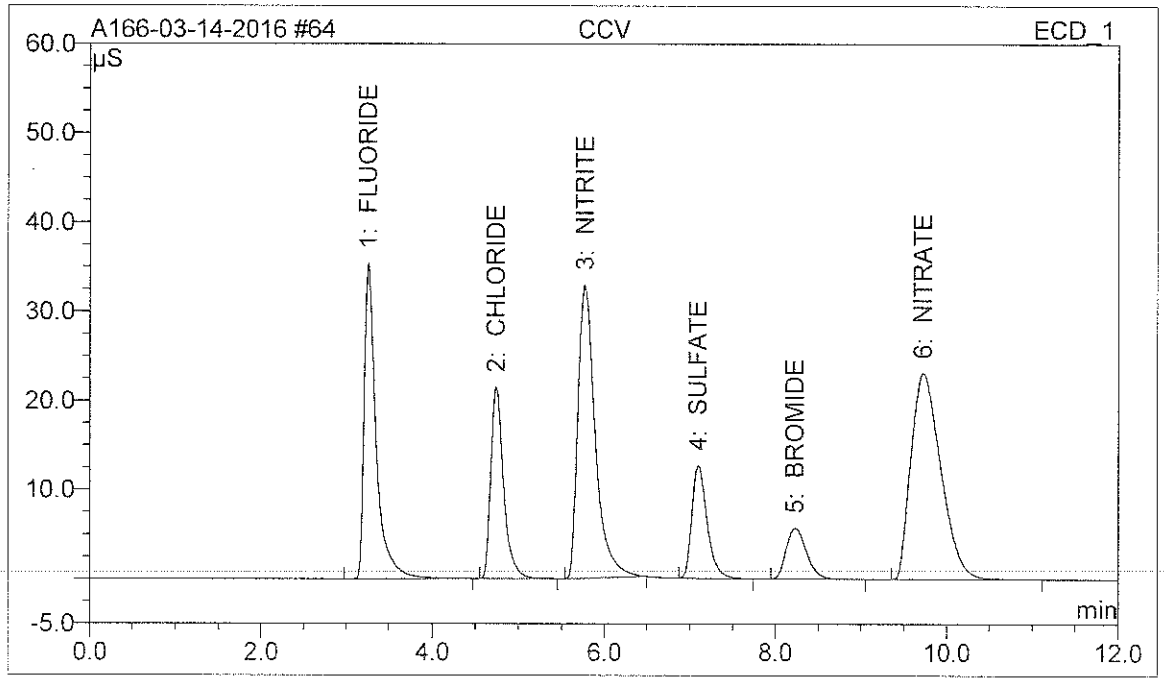
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	FLUORIDE	3.26	1.242	7.821	2.1629	30.06
2	CHLORIDE	4.74	0.448	2.658	1.3652	18.97
3	NITRITE	5.82	0.104	0.248	0.0929	1.29
4	SULFATE	7.11	0.896	4.395	3.3962	47.20
5	NITRATE	10.00	0.062	0.184	0.1784	2.48



Sample Analysis Report

Sample Name:	CCV	**Sample No.:**	64
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	1.0000
Date Time Collected:	3/15/2016 1:18 AM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

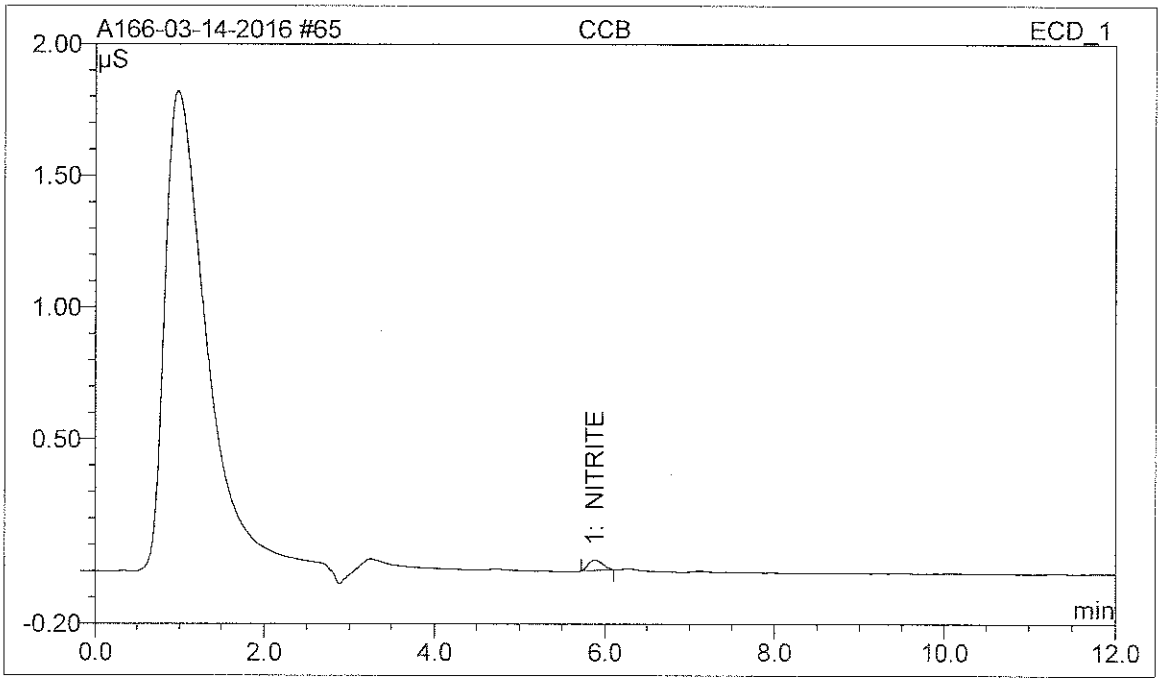
Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	FLUORIDE	3.26	5.876	35.376	10.5753	17.07
2	CHLORIDE	4.74	3.693	21.485	10.3207	16.66
3	NITRITE	5.77	7.782	32.814	10.7471	17.35
4	SULFATE	7.10	2.647	12.650	9.7356	15.71
5	BROMIDE	8.24	1.550	5.684	10.2883	16.61
6	NITRATE	9.72	9.351	23.125	10.2910	16.61



Sample Analysis Report

Sample Name:	CCB	**Sample No.:**	65
Sequence Name:	A166-03-14-2016	**Sample ID.:**	
Program Method:	ANIONS_2	**Injection vol.:**	25.0
Quantitation Method:	ANIONS_01-08-14	**Dilution Factor:**	1.0000
Date Time Collected:	3/15/2016 1:33 AM	**Sample Wt.:**	1.0000
System Operator:	A166	**Sample Amt.:**	1.0000
Comments:			

Peak No.	Component Name	Retention Time	Area µS*min	Height µS	Amount PPM	Relative Amount %
1	NITRITE	5.88	0.008	0.039	-0.0416	n.a.



Percent Moisture Worksheet

Analytical Method: **AD2216A / Percent Moist**
Sequence: **990097**
Analyst: **Yanexi Valero**
Balance ID: **AT261-2**
Sand Lot#: **507907**
Oven Temp (°C) Range: **105-115 Deg C**

1st Drying Cycle
Date & Time In Oven: **03/11/2016 15:39**
Date & Time Out of Oven:
Oven Temp (°C) Read: **105**
Oven Temp (°C) Correction: **106**

2nd Drying Cycle
Date & Time In Oven: **3/14/15 9:00**
Date & Time Out of Oven: **3/14/16 10:55**
Oven Temp (°C) Read: **105**
Oven Temp (°C) Correction **106**

Thermometer ID: **WC022014** Thermometer Correction Factor °C: **1**

	Lab ID	Client Sample Id	Date Received	Due Date	Pan Weight (a)	Wet Sample Weight +Pan (b)	1st Dry Weight + Pan	2nd Dry Weight + Pan (c)	3rd Dry Weight + Pan (d)	Percent Solid	Percent Moisture	Comments
1	990097-1-BLK	990097-1-BLK			1.3308 g	10.8667 g	10.86 g	10.8629 g				
2	526483-002	D-S-9'-160308	03/09/16	03/09/16	1.31 g	10.7874 g	9.7887 g	9.7944 g		88.30	11.70	
3	526483-002 D	D-S-9'-160308 D	03/09/16	03/09/16	1.3235 g	10.6852 g	9.6688 g	9.6756 g		87.91	12.09	
4	526483-003	F-S-25'-160308	03/09/16	03/09/16	1.3177 g	10.9844 g	8.999 g	9.008 g		74.30	25.70	
5	526483-004	E-S-16'-160308	03/09/16	03/09/16	1.3134 g	10.7338 g	8.6718 g	8.6789 g		72.10	27.90	
6	526483-005	I-S-11'-160308	03/09/16	03/09/16	1.323 g	11.4252 g	9.2336 g	9.2425 g		72.44	27.56	
7	526483-006	C-S-13'-160308	03/09/16	03/09/16	1.3193 g	12.155 g	9.9367 g	9.9419 g		74.33	25.67	
8	526574-001	S-1	03/10/16	03/10/16	1.3193 g	13.182 g	11.3919 g	11.4063 g		82.40	17.60	
9	526574-002	S-2	03/10/16	03/10/16	1.342 g	11.2436 g	9.6761 g	9.6919 g		81.42	18.58	
10	526574-003	S-3	03/10/16	03/10/16	1.3311 g	11.8095 g	10.0988 g	10.1104 g		80.65	19.35	
11	526574-004	S-4	03/10/16	03/10/16	1.3213 g	19.1739 g	14.9087 g	14.9273 g		68.79	31.21	
12	526574-005	S-5	03/10/16	03/10/16	1.321 g	11.0802 g	8.5635 g	8.5709 g		65.39	34.61	
13	526574-006	S-6	03/10/16	03/10/16	1.3108 g	13.7987 g	11.28 g	11.2937 g		74.91	25.09	
14	526574-006 D	S-6 D	03/10/16	03/10/16	1.3333 g	13.5906 g	11.0962 g	11.1129 g		74.66	25.34	
15	526622-001	SB-I4-70-70.5	03/10/16	03/11/16	1.3322 g	11.8716 g	10.7516 g	10.7559 g		88.16	11.84	

Approved By: 

Yanexi Valero

Approved Date: 03/14/2016